## ARIZONA STATE RETIREMENT SYSTEM

A Component Unit of the State of Arizona

## 2013 COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR FISCAL YEAR ENDED JUNE 30, 2013





RETIREES GIVING BACK

## DELIVERING SERVICE WITH...

# PRIDE

## **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

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

Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2013

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

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

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

## ARIZONA STATE RETIREMENT SYSTEM

#### A Component Unit of the State of Arizona





"I have volunteered with my therapy dogs for 20 years, but now that I have been retired for 3 years, I spend much more time volunteering. I have been the co-chairperson for the Banner Boswell Pet Therapy program for 15 years. My dog Joy and I are visiting the hospital, care centers, and special needs adults weekly. After working for the Washington Elementary School District for 20 years, my dogs and I have made many friends." - Lyndy McKay

## Introductory Section

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## CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

## The Arizona State Retirement System

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2012

Executive Director/CEO

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, 2012. This was the 24<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 2013. 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 9th consecutive year that the Arizona State Retirement System has received this prestigious award.

#### LETTER OF TRANSMITTAL FROM THE DIRECTOR



#### 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

October 18, 2013

To: The Arizona State Retirement System Board of Trustees

We are pleased to present, on behalf of the ASRS staff, the sixtieth 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, 2013. This year's CAFR honors ASRS retirees who give back to their communities.

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, 2013. 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 percent of the ASRS membership. More than 80 percent voted to transfer to the defined benefit plan, which became effective July 1, 1971.

At June 30, 2013, total ASRS membership, including active, inactive, disabled and retired members was 542,845. 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. The SRSP is a supplemental defined contribution plan qualified under 401 (a) of the Internal Revenue Code.

During FY 2012-13, more than 122,257 retired annuitants, their survivors, and disabled members received in excess of \$2.60 billion in benefits. As of June 30, 2013, there were 47,469 retired members and their families enrolled in the ASRS-sponsored medical program and 49,932 retired members and their families enrolled in dental plans through the ASRS.

ASRS Board Trustees are appointed to three-year terms by the governor and confirmed by the Arizona State Senate. Four trustees of the ASRS Board must have a minimum of 10 years investment experience and each trustee who represents an ASRS member group shall have no less than five years of administrative management experience. There is no limit on the number of terms an ASRS Board Trustee may serve.

#### **Major Initiatives for Fiscal Year 2012-13**

#### **Investments**

- Implemented ASRS Strategic Asset Allocation Policy: Commitments made to new strategic asset classes and tactical allocations with full policy implementation expected to occur over the next 12-24 months.
- Developed and Implemented an Equity Risk Factor Exposure Program: Identification of equity market risk factors lead to the development and funding of select exchange-traded funds, which enables the ASRS to better control risk and enhance returns of its U.S. and Non-U.S. public equity portfolios.
- Modified Asset Class Committees' Composition: Changes to the ASRS Governance Handbook require a delineation for the roles of the Board and ASRS staff between authority and Committee meeting participation.
- Systematized Investment Reporting Functions: Implemented a bifurcated reporting structure, in which the CIO provides investment program updates and the ASRS general consultant provides independent reporting, monitoring, and oversight of ASRS investment program.

#### **Benefits Processing**

**Ending Payroll Verification:** A new online ending payroll verification process was implemented to enhance service to members and employers making the application process more efficient. This form, which employers must often complete when members apply for ASRS benefits, is now automatically sent to employers when a member submits an application. Employers are then able to complete the form and submit the data needed by using the ASRS's secure website.

#### LETTER OF TRANSMITTAL FROM THE DIRECTOR (CONTINUED)

- **Spousal Consent:** Implemented legislation that requires a member who is married to name and maintain their spouse as a beneficiary with at least 50 percent interest in the member's account, and, at retirement, to elect a monthly benefit in the form of a joint and survivor annuity, with the member's spouse as the contingent annuitant. The member's spouse has the ability to waive this requirement.
- Online Retirement Application: An online retirement application was implemented, and by the end of the fiscal year, over 40 percent of new retirees each month had applied using the new service. The online application enhances service by providing members with the ability to safely and securely apply for retirement at a time and place convenient to them. An additional feature of the new application allows new retirees to track the status of their application online and receive email updates at certain steps in the process.

#### **Services**

The ASRS continued to enhance the level of service it provides to members this year through the introduction of new online tools and services for members:

- Online Member Statement: This year the ASRS replaced the paper account statement that had traditionally been printed and mailed to all active and inactive ASRS members each year with an online version that can be generated, printed, or saved electronically throughout the year. The new statement contains all of the estimates and information that were provided in the previous account statement, but has improved on the paper version by always utilizing real time data, rather than data that is several months old.
- Enhanced Secure Account Access: To complement the new online statement, significant enhancements were
  made to the secure member website. Each of these enhancements was made to provide members with an easy
  way to access information, and to provide personalized estimates for their ASRS retirement, refund, survivor,
  and disability benefits. Members also have the ability to apply for ASRS benefits or update their personal information online.
- "Like" us on Facebook! This year, the ASRS began to engage and communicate with members via social media. Social media, combined with last year's implementation of e-newsletters and targeted e-communications campaigns, has vastly broadened the ASRS's ability to reach members with timely, targeted, and relevant information.

#### **Administration**

Paperless Pension Administration: The ASRS was highlighted by CEM Benchmarking Inc. in a study done
for clients on how and why the world's leading pension administration teams are moving to a paperless environment. The ASRS was highlighted as a provider who offers its members access to a high number of online
services.

#### **Investment Policies**

An integral part of the overall investment policy is the Strategic Asset Allocation Policy (SAAP), which is designed to optimize returns while minimizing risk. The ASRS maintains its investment assets in accordance with a Board approved SAAP. Investment assets are managed in 165 externally managed and 7 internally managed portfolios, which are diversified in U.S. equities, U.S. fixed income, international equities, real estate, private equity, opportunistic and commodity investments.

After deducting investment expenses, the Retirement and Health Benefit Supplement funds achieved the following net time weighted rates of return for the period ended June 30, 2013:

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

(Retirement & Health Benefit Supplement)

	1 Year	3 Year	5 Year	10 Year	Inception
					(June 30, 1975)
ASRS Total Fund	13.1%	12.6%	5.9%	7.4%	9.8%

The ASRS has 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. Details of 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, 2012, the actuarial value of total plan assets (pension and health benefit supplement) was \$30.2<sup>1</sup> billion and the actuarial accrued liability was \$40.0 billion. The unfunded actuarial accrued liability of \$9.7 billion results in an actuarial funding ratio of 75.7 percent for the total plan. The decrease in actuarial funding percentage from last year's 75.8 percent is primarily due to recognition of investment losses in fiscal years 2003, 2008 and 2009.

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

#### LETTER OF TRANSMITTAL FROM THE DIRECTOR (CONTINUED)

The June 30, 2012 market value of total plan assets (pension and health benefit supplement) was \$27.6<sup>1</sup> billion and the actuarial accrued liability was \$40.0<sup>1</sup> billion. The unfunded market value of assets accrued liability of \$12.4 billion results in a market value of assets funding ratio of 69.0<sup>1</sup> percent for the total plan. The decrease in market value of assets funding percentage from last year's 72.7<sup>1</sup> percent is primarily due to the rate of return on market assets of 1.10% during fiscal year 2012, versus expected earnings of 8%.

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

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

Although the ASRS funds are well-diversified and professionally managed portfolio of investments, they incurred significant losses in fiscal years 2003, 2008, and 2009. These losses have the effect of reducing the actuarial value and market value of assets funded status of the funds. As a result, the combined pension and health benefit supplement contribution rate is expected to increase for approximately the next five 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, over the last 10 years, has been engaged in significant program and policy review. 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 \$369 million per year, which is equivalent to approximately \$5.1 billion in liability savings for the group of all current employees, or approximately \$10.4 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 percent in total each year.

Please see chart on next page.

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

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

As of June 30, 2012 Valuation Date (Amount in Millions of Dollars)

Action	Reduction in Total Contribution Rate	Red Con	nnual uction in Total tribution mount	Sa	ent Value of avings on sed Group Basis	Savin Gı	ent Value of igs on Open roup (No wth) Basis
COST SAVINGS INITIATIVES CONTAINED IN CURRENT VALUATION & REFI	ECTED IN LOWER	CURRE	NT CONTRIB	UTION	RATE		
Change basis for service purchases from normal cost to actuarial present value (APV)	0.60%	\$	53.21	\$	1,062.01	\$	1,825.30
Correction of Permanent Benefit Increase (PBI) reserve	0.04%		3.55		70.65		63.87
Decrease interest credited on withdrawn contributions from $8\%$ to $4\%$	0.27%		23.94		477.99		821.45
Decrease interest credited on withdrawn contributions from $4\%$ to $2\%$	0.44%		39.02		288.51		848.26
Redesign non-retired survivor benefits	0.02%		1.77		22.25		27.23
Sub-Total, Savings in Current Valuation	1.37%	\$	121.49	\$	1,921.41	\$	3,586.11
COST SAVINGS INITIATIVES CONTAINED IN FUTURE EXPERIENCE							
Long Term Disability (LTD) program design changes	0.02%	\$	1.77	\$	35.95	\$	61.36
Reimbursements for early retirement incentives	0.18%		15.96		318.49		547.51
Increase interest rate on payroll deduction agreements (PDAs) from $0\%$ to $8\%$	0.16%		14.19		283.52		487.12
Pop-up restrictions	0.41%		38.01		629.30		1,174.53
Rescinding modified Deferred Retirement Option Plan (mDROP)	0.50%		44.30		747.57		1,383.08
LTD changes to offsets and pre-existing condition period	0.15%		13.30		204.09		394.92
Recapture of unclaimed monies	0.01%		0.57		8.83		16.97
Eliminate 80% cap on retirement benefits	0.04%		3.55		39.64		90.61
Require 20/20 Rule for dual employment situations	0.04%		3.29		36.68		83.86
Eliminate enhanced refunds	0.16%		14.26		120.60		331.89
Replace Rule of 80 with Rule of 85	0.30%		26.73		226.05		622.10
Replace 36-month average salary with 60-month average	0.25%		22.28		188.39		518.4
Apply Alternative Contribution Rate (ACR) to return-to-work	0.25%		22.28		188.39		478.03
Compute service purchases with 6% discount rate	0.08%		7.17		53.01		155.87
Eliminate service purchases through partial lump sumes	0.07%		5.82		43.03		126.52
Eliminate Permanent Benefit Increases for future members	0.11%		9.76		-		219.98
Sub-Total, Savings Emerging in Experience	2.73%	\$	243.24	\$	3,123.54	\$	6,692.80
ION-ASRS INITIATIVES							
Replace Rule of 85 with 55 & 30 or 60 & 25	0.00%	\$	0.61	\$	5.14	\$	13.90
Change pre-retirement death benefit to sum of employee and employer balances (ASRS Initiative)	0.04%		3.26		27.56		74.32
Adopt 6-month delay in contributions from state members	-0.13%		-		-		-
Prospective cost-shift of 6-month delay (not included in totals)	N/A		(11.78)		(100.92)		(272.94)
Sub-Total, Saving Emerging in Experience from Non-ASRS Initiatives	-0.09%	\$	3.87	\$	32.70	\$	88.22
GRAND TOTAL	4.01%	\$	368.60	¢	5,077.65	¢	10,367.13

#### **LETTER OF TRANSMITTAL FROM THE DIRECTOR (CONTINUED)**

#### **Budget Savings**

The ASRS regularly implements strategies to reduce agency expenditures. As a result, the ASRS realized reductions to the operating budget totaling \$480,000 for FY 2013 and \$4.0 million over the past five 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, 2012. The ASRS has received this prestigious award in each of the last 24 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, 2012 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 second 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 2013 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 ninth year the ASRS has received this award.

#### **Acknowledgements**

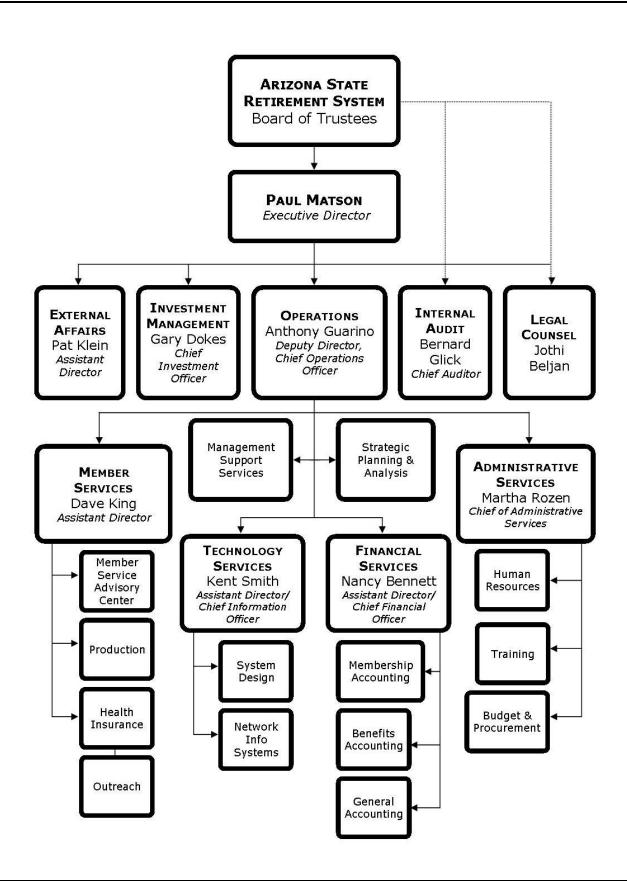
This report represents the culmination of hours of hard work by the ASRS General Accounting and Investment Management Division staff. It is intended to provide complete and reliable information for decision making, to ensure compliance with legal requirements, and is a means of measuring the responsible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





Fiscal Year 2012-2013 Board



#### **OUTSIDE PROFESSIONAL CONSULTANTS**

#### **ACTUARY**

Buck Consultants, LLC Phoenix, AZ

#### LONG TERM DISABILITY BENEFITS

Sedgwick CMS Company Calabasas, CA

#### **CUSTODIAL BANK**

State Street Bank and Trust Co. Boston, MA

#### PENSION DISBURSEMENT SERVICES

State Street Retiree Services Boston, MA

#### INDEPENDENT AUDITORS

CliftonLarsonAllen, LLP Baltimore, MD

#### **GENERAL INVESTMENT CONSULTANT**

NEPC, 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 86-91

#### **SUMMARY OF 2013 RETIREMENT LEGISLATION**

The 51st Legislature, Second Regular Session adjourned June 14, 2013. Below is a brief summary of bills that have been passed into law that affect ASRS members and employers. To view legislation in its entirety, visit the Arizona Legislature's website at www.azleg.gov. All bills listed below are effective on September 13, 2013, unless otherwise noted.

#### SB 1170 — ASRS; amendments

(Laws 2013, Chapter 110)

#### **Amortization Period**

- Requires the past service funding requirement to be amortized over a period that is determined by the Board and consistent with generally accepted actuarial standards, rather than the current rolling 30-year period.
- Instructs the Board, when determining the amortization period, to seek to improve the funded status whenever the ASRS Trust Fund is less than 100% funded.

#### **Member Identity Security**

- States that, in order to protect a member's identity from fraud, abuse, theft or civil or criminal activity, information about a member is not subject to inspection, except for:
  - The member's name
  - Membership status (active, inactive, retired)
  - o Current or most recent employer
  - o Average monthly compensation used to calculate a retirement benefit
  - Credited service on account for an active or inactive member or the credited service used to calculate a retired member's benefit
  - o Gross pension amount actually paid to a retired member
  - Most recent retirement date
  - o Current account balance for an active or inactive member
  - o Gross LTD program benefit actually paid to a disabled member
  - Amount paid to purchase service
  - Amount of service purchased
- Prohibits any unredacted record to be inspected that contains a member's SSN, bank account information, address, telephone number, e-mail address, medical records, health insurance information, beneficiary or survivor information, disability information, or any information that is protected by any federal or state law.

#### **Survivor Benefits**

- Removes the requirement that a survivor's benefit must exceed \$5,000 in order to elect an annuity option.
- Limits the annuity option a survivor may take to the straight-life option only, if the monthly amount is greater than an amount determined by the ASRS Board (currently \$20 per month).
- Eliminates the present value benefit calculation, which is currently only available if the member had reached an early retirement date or had 15 years of service and the designated beneficiary is a spouse, natural or adopted child under 21, or disabled child of any age.

- Permits a survivor who elects to take the annuity option to participate in the ASRS's Group Health Insurance program. Note: survivors are not eligible for the Health Benefit Supplement.
- Delays the application of survivor benefit changes to new survivors on or after January 1, 2014.

#### **Permanent Benefit Increases**

Eliminates the Permanent Benefit Increase program for members whose membership commences after the general effective date.

#### **Health Insurance Program Self-insurance**

- Permits the ASRS Board to establish a self-insured health insurance program if the Board determines that selfinsuring would be less expensive and at least as effective as a fully insured plan, while considering the risks and
- Permits the ASRS to establish a separate account to administer the self-insured program, and prohibits the ASRS from diverting any part of the account for any other purpose.
- Provides that if a self-insurance program is offered, it must offer all health benefits required by Title 20 (Insur-
- Provides that if a self-insurance program was no longer offered, the monies in the separate account shall be transferred to another account of ASRS.

#### **Spousal Consent Clarification**

Clarifies that a member is not required to name or maintain a current spouse as their beneficiary or elect a joint and survivor annuity if such an action would violate another law, an existing contract, or a court order, retroactively to from and after June 30, 2013.

#### **Federal Conforming Changes**

- Requires the ASRS to correct annual addition limit excesses using the Employee Plans Compliance Resolution System or future guidance prescribed by the Internal Revenue Service (IRS).
- States that once a member has reached a normal retirement date, the member's right to a normal retirement benefit cannot be forfeited by the ASRS or an employer, except as provided by the Felony Forfeiture statute.

#### Miscellaneous

- Appropriates \$200,000 from the ASRS administration account to the ASRS. The appropriation is non-lapsing.
- Makes technical and conforming changes.

#### HB 2562 — public retirement systems; ineligible employees

(Laws 2013, Chapter 216)

#### **General Provisions**

- Establishes and requires participation in a 401(a) Plan for public employees who are:
  - Hired on or after September 13, 2013;
  - Not eligible for the ASRS because the employee is not covered by the State's Section 218 Social Security Agreement;

#### **SUMMARY OF 2013 RETIREMENT LEGISLATION (CONTINUED)**

- Otherwise ineligible for a state retirement system or plan; and
- o Engaged to work at least 20 weeks in each fiscal year and at least twenty hours each week.
- Provides that enrollment in the 401(a) Plan is optional for employees who have already retired from a state retirement system (at the employer's option) or if the employer and employee have entered an alternative compensation agreement.
- Requires each participating employee and employer to contribute one-half of the ASRS total normal cost plus 1.5% of compensation into the employee's retirement savings account.
- Requires each participating employee and employer to contribute to the ASRS Long-Term Disability Program.
- Provides that the assets in an employee's annuity account immediately vest.

#### **Employer Duties**

- Requires ASRS employers to:
  - Follow ASRS procedures and to cooperate and collaborate with ASRS to ensure proper enrollment of employees.
  - O Submit any reports, data, paperwork or materials that are requested by ASRS that are necessary to make eligibility determinations or for the proper administration of the ASRS.
  - o Attend the annual ASRS training conference.
- Requires local boards to make determinations regarding employee eligibility for membership in PSPRS.
- Requires employers participating in PSPRS to provide materials necessary to eligibility determination to the local board, including the employee's hire date, position title and description.

#### **Appeals**

- Provides procedures for enrollment of employees in the 401(a) Plan during administrative appeals to ASRS and SSA regarding employee eligibility.
- Provides procedures for enrollment of employees in the proper retirement plan (either ASRS or the 401(a) Plan) once a final eligibility determination has been made.

#### **Administrative**

- Establishes the 401(a) Plan as a 414(h) pre-tax pick-up plan for income tax purposes, which will be administered under the current ASRS Third Party Administrator (TPA) contract.
- Requires ASRS to go out for competitive bids at least every five years on expiration of the current TPA contract.

#### Miscellaneous

- Changes the heading of Title 38, Chapter 5, Article 8 of the A.R.S. from Supplemental Defined Contribution Plans to Defined Contribution Plans.
- Appropriates 1 FTE and \$72,400 for personal services and \$430,000 for professional services from the ASRS Administration Account to ASRS for FY 2013-14, which is non-lapsing.
- Makes technical and conforming changes

#### HB 2608 — EORP; closure; defined contribution

(Laws 2013, Chapter 217)

Freezes membership in the current Elected Officials' Retirement Plan (EORP) and establishes the Elected Officials' Defined Contribution Retirement System (EODC) and Disability Program.

With respect to ASRS, HB 2608:

- Allows someone who becomes an elected official subject to term limits on or after January 1, 2014 and who is an active or inactive member of ASRS to continue or resume participation in ASRS in lieu of participation in the EODC.
- Provides that an elected official elected or appointed before January 1, 2014 who opts out of EORP may also opt out of ASRS.
- Provides that an elected official subject to term limits, whose employer participates in ASRS, who prior to January 1, 2014 elected to participate in ASRS because of an election to not participate in EORP, may irrevocably and in writing elect to continue participation in ASRS in lieu of participation in the EODC if filed with ASRS within 30 days of the beginning of the elected officials' term.
- Removes language requiring certain full time superior court commissioners to be ASRS members and reestablishes their eligibility for the Elected Officials Retirement Plan (EORP).

## ARIZONA STATE RETIREMENT SYSTEM

#### A Component Unit of the State of Arizona



"As a retired teacher, volunteering at Assistance League of Phoenix (AL) has been a perfect fit for me, and very rewarding. AL is a volunteer driven 501(c)(3) non profit organization which serves over 40,000 children. Our five philanthropic programs keep me quite busy! Operation School Bell provides new school clothes, health kits and shoes to elementary school children in need. HUGS provides teddy bears to children in crisis; LEARN promotes literacy through gifts of books, dictionaries, birthday books, and educational programs to Title 1 students; Scholarships provides special programs for students; and Wee Help provides layettes for infants born into poverty. I can even volunteer in retail at our awesome AL of Phoenix Thrift Store!" - **Denise Vesci** 

## FINANCIAL SECTION

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#### **INDEPENDENT AUDITORS' REPORT**



CliftonLarsonAllen LLP www.cliftonlarsonallen.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 Statement of Plan Net Position as of June 30, 2013, and the related Combined Statement of Changes in Plan Net Position for the year then ended, and the related notes to the 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 audit 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 plan net position of the ASRS as of June 30, 2013, 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.



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#### Other Matters

The 2012 financial statements of ASRS were audited by other auditors whose report dated October 30, 2012, expressed an unmodified opinion on those statements.

#### 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 and Contributions from the Employer and Other Contributing Entities 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 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

toxLarson Allen LLP

In accordance with Government Auditing Standards, we have also issued our report dated October 22, 2013 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  ${\it Standards} \ in \ considering \ the \ ASRS' \ internal \ control \ over \ financial \ reporting \ and \ compliance.$ 

Baltimore, Maryland October 22, 2013

#### MANAGEMENT'S DISCUSSION AND ANALYSIS

his section presents Management's Discussion and Analysis (MD&A) of the Arizona State Retirement System's (ASRS) plan net position and changes in plan net position for the fiscal year ended June 30, 2013. 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 FY 13, ASRS assets increased primarily as the result of strong market conditions.

- At June 30, 2013, the ASRS held net investments of \$30.5 billion, an increase of \$2.9 billion from FY
   12.
- The combined investment portfolio experienced a return of 13.1 percent compared to 1.3 percent in FY 12. The increase in net investments from FY 12 to FY 13 is primarily due to strong performance in U.S. and international equities, as well as opportunistic equity, debt and real estate.
- The ASRS paid \$2.60 billion in pension, disability, health insurance and survivor benefits during FY 13 compared to \$2.49 billion in FY 12.
- At June 30, 2012 (latest actuarial valuation), the total funded status of the ASRS retirement and health benefit supplement funds decreased slightly to 75.7 percent from 75.8 percent at FY 11. At FY 12, ASRS actuarial liabilities exceeded actuarial assets for the retirement and health benefit supplement funds by \$9.7 billion. This compares to an excess of actuarial liabilities over actuarial assets of \$9.3 billion at FY 11. This decrease in funded status is due primarily to the recognition of investment losses in FY 03, FY08 and FY 09.

#### 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 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, 2013. This financial information also summarizes the combined changes in net position held in trust for pension benefits for the year then ended. The information available in each of these sections is briefly summarized as follows:

- Fund financial statements. For the fiscal year ended June 30, 2013, financial statements are presented for the funds administered by the ASRS. These fiduciary funds are held for the benefit of the ASRS members.
- The Combined Statement of Plan Net Position is presented as of June 30, 2013 with combined total comparative information as of June 30, 2012. 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 Statement of Changes in Plan Net Position is presented for the year ended June 30, 2013, with comparative information for the year ended June 30, 2012. 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 32-52 of this report.

- 3) Required Supplementary Information. The required supplementary information consists of three schedules and related notes concerning actuarial information, funded progress and required contributions of the defined benefit pension systems administered by the ASRS.
- 4) Additional Supplementary Schedules. These schedules include a Combining Schedule of Net Position and Changes in Net Position for the ASRS Plan and System retirement programs. Detailed information about additions, deductions, administrative expenses, consultant fees and investment expenses by manager incurred by the ASRS administered funds. 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.

#### **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.

Plan Net Position. ASRS's total net position held in trust for benefits at June 30, 2013 were \$30.6 billion, a 9.9 percent increase from \$27.9 billion at June 30, 2012. The increase in net assets is primarily due to an increase in investment returns, which was 13.1 percent for FY 13. The retirement fund's net position was \$29.0 billion compared to \$26.4 billion last year, a 9.9 percent increase. The HBS's fund net position was \$1.3 billion at year end compared to the same \$1.2 billion at FY 12, an 11.0 percent increase. The LTD fund's net position was \$262 million at year end compared to \$257 million last year, a 2.0 percent increase.

Cash, receivables and prepaids of \$1.15 billion in FY 13 represents an insignificant change compared to \$1.10 billion in FY 12. Liabilities of \$1.3 billion represents an increase of 45 percent compared to \$907 million last year. This is primarily due to an increase in forward contracts payable.

**Changes in Net Position.** For the 2013 fiscal year, contributions totaled \$2.1 billion, compared to the 2012 fiscal year contributions of \$1.9 billion. The increase is due to a 0.40 percent increase in contribution rates for retirement and HBS, and retrospective health insurance rate adjustment reimbursement totaling \$25.8 million in FY 13 compared to \$15.5 million in FY 12.

For FY 13, the ASRS recognized net investment income of \$3.6 billion which compares to net investment income of \$339 million in the previous year. This 953.9 percent increase is primarily due to strong performance in U.S. and international equities, as well as opportunistic equity and debt, and real estate.

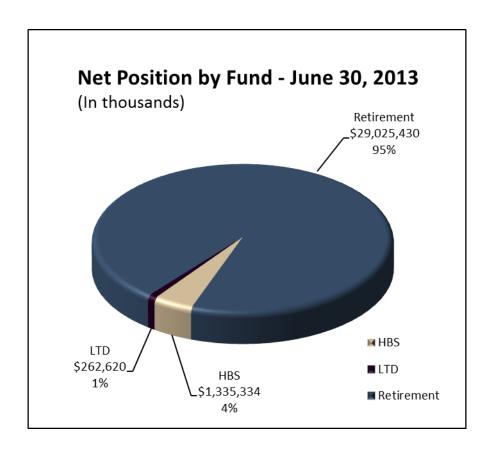
Deductions from the ASRS's net position held in trust for benefits consist primarily of pension, disability, health insurance, survivor benefits, member refunds and administrative expenses. For the 2013 fiscal year, pension, disability, health insurance and survivor benefits totaled \$2.60 billion, an increase of 4.7 percent over the \$2.49 billion paid during FY 12. The 4.7 percent increase is explained by an increase in total retirees. Refunds and transfers to other plans totaled \$219 million in 2013, a 3.3 percent increase from the \$212 million paid out in 2012. In FY 13, the cost of administering the ASRS benefits totaled \$41 million, an increase of 14.7 percent from the \$36 million paid in FY 12.

The following tables show the principal ASRS net assets and changes in net assets for fiscal years 2013 and 2012, in thousands of dollars:

#### MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

Net Position	2013	2012	Change	% Change
ASSETS				
Cash, receivables and prepaids	\$ 1,145,516	\$ 1,092,738	\$ 52,778	4.8%
Investments at fair value	30,779,999	27,626,426	3,153,573	11.4%
Securities lending	15,460	50,070	(34,610)	-69.1%
Total assets	31,940,975	28,769,234	3,171,741	11.0%
LIABILITIES				
Payables and other liabilities	1,302,131	856,928	445,203	52.0%
Securities lending	15,460	50,070	(34,610)	-69.1%
Total Liabilities	1,317,591	906,998	410,593	45.3%
NET POSITION	\$30,623,384	\$27,862,236	\$ 2,761,148	9.9%

Change in Net Position	2013		2012		Change		% Change
ADDITIONS							
Member contributions	\$	968,885	\$	926,966	\$	41,919	4.5%
Employer contributions		989,790		927,628		62,162	6.7%
Federal government reimbursement		-		19,978		(19,978)	-100.0%
Retrospective rate adjustment reimbursement		25,826		15,495		10,331	66.7%
Service credit purchase and transfers in		72,023		53,659		18,364	34.2%
Investment and security lending income		3,748,774		475,030		3,273,744	689.2%
Investment and security lending expense		(178,898)		(136,302)		(42,596)	-31.3%
Total additions		5,626,400		2,282,454		3,343,946	146.5%
DEDUCTIONS							
Retirement and disability benefits		2,566,275		2,457,052		109,223	4.4%
Survivor benefits		38,442		29,731		8,711	29.3%
Refunds and transfers		219,332		212,313		7,019	3.3%
Administration and other		41,203		35,929		5,274	14.7%
Total deductions		2,865,252		2,735,025		130,227	4.8%
NET CHANGE		2,761,148		(452,571)		3,213,719	710.1%
Net position beginning of year	7	27,862,236		28,314,807		(452,571)	-1.6%
Net position end of year	\$3	30,623,384	\$2	27,862,236	\$	2,761,148	9.9%



**Funded Status.** Actuarial valuations of the ASRS assets and benefit obligations for the retirement and health benefit supplement funds combined are performed annually. The most recent actuarial valuation available is as of June 30, 2012.

At June 30, 2012 the total funded status of the ASRS retirement and health benefit supplement funds decreased slightly to 75.7 percent from 75.8 percent for FY 11. At FY 12, ASRS actuarial liabilities exceeded actuarial assets for the retirement and health benefit supplement funds by \$9.7 billion. This compares to an excess of actuarial liabilities over actuarial assets of \$9.3 billion for FY 11. This decrease in funded status is due primarily to the recognition of investment losses in fiscal years 2003, 2008 and 2009.

Investments. During the FY 13, the ASRS investments were broadly diversified in domestic and international equities, domestic fixed income, real estate, private equity, opportunistic, commodities and cash equivalent instruments. According to statutory restrictions, no more than 80 percent of ASRS assets may be invested at any given time in corporate stocks or equity equivalents, and no more than 40 percent of ASRS assets may be invested in foreign securities. These investments remained within statutory guidelines.

The Retirement and HBS funds are combined in commingled investment pools. Investments for each fund are allocated daily via a fluctuating dollar unitization methodology. Realized and unrealized gains are allocated daily using the same methodology. The LTD investments are held and managed in a separate fund.

#### MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

At June 30, 2013, the ASRS held net investments of \$30.5 billion, an increase of \$2.9 million from FY 12. The combined investment portfolio experienced a return of 13.1 percent compared to the Interim Total Fund Benchmark return of 12.6 percent. The increase in net investments from FY 12 to FY 13 is primarily due to strong performance in U.S. and international equities, as well as opportunistic equity and debt, and real estate.

The ASRS held \$12.2 billion in domestic equities and \$6.5 billion in international equities on June 30, 2013, a decrease of 3 percent in domestic equities and a 37 percent increase in international equities from FY 12. Market performance and the reallocation of assets account for the change in value. The FY 13 rate of return for ASRS domestic equities was 22.2 percent compared to 2.8 percent in FY 12. 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 22.0 percent for FY 13. The FY 13 rate of return for ASRS international equities was 14.0 percent compared to -13.1 percent in FY 12. 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 15.1 percent for FY 13. The underperformance of the Fund's international equities class was largely a result of the stock selections made by external portfolio managers, deep recession in Europe continuing along with slowing growth in Asia.

Domestic fixed income securities held by the Fund were \$5.4 billion at June 30, 2013, which is consistent with prior year. The rate of return was -0.5 percent for core fixed income and 8.8 percent for U.S. high yield compared to 8.1 percent in the previous year for total domestic fixed income, as the result of lower long-term interest rates and the narrowing of credit spreads during FY 13. The ASRS also funded investments in Emerging Market Debt during the first quarter of 2013, which have returned -7.7 percent for FY 13. The ASRS domestic fixed income benchmark returned -0.2 percent for FY 13.

At June 30, 2013, the ASRS held \$902.1 million in commodities securities managed by two commodity managers.

The managers experienced a return of -5.6 percent and -4.0 percent, respectively, compared to the DJUBS Commodity Index, which returned -8.0 percent a during FY 13.

At June 30, 2013, the ASRS held \$1.7 billion in real estate assets, an increase of \$297.2 million from FY 12. The one year and three year time weighted returns for the real estate program are 12.8 percent and 13.9 percent, respectively. This compares to the NFI-ODCE Index 10.8 percent and 15.1 percent 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 70 percent 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.

At June 30, 2013, the ASRS held \$1.7 billion in private equity investments, an increase of \$371.7 million from FY 12. 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, 2013, the one year and three year net-offees rate of return was 12.6 percent and 15.0 percent, respectively. For the same periods, the Russell 2000 Index returned 16.3 percent and 13.5 percent, 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. The inception return of 2.4 percent of the private equity portfolio is a time weighted return, which needs to be interpreted considering the portfolio is in a build out phase where the scale of investments in recent periods is far greater than early periods.

Every time period, however, is given an equal weight in the return calculation. By comparison, the Internal Rate of Return (IRR) for the private equity program from inception is 11.1 percent, which is 8.7 percent higher than the time weighted return.

At June 30, 2013, the ASRS held \$1.3 billion in opportunistic funds, an increase of \$608.7 million from FY 12. The performance of ASRS opportunistic investments are evaluated primarily on a net-of-fees absolute rate of return basis and are split between opportunistic equity and opportunistic debt. These investments, inception-to-date, have returned 18.6 percent and 8.9 percent, respectively. Opportunistic Investments have an absolute return benchmark, which are strategies specific to the individual manager mandates, but not the asset class itself.

The ASRS earns additional investment income by lending investment securities. State Street Bank & Trust, the ASRS' custodial bank, acts as agent for lending transactions related to the ASRS' securities custodied at State Street. Borrowers provide collateral, either securities or cash, in excess of the value of loaned securities and generally use the borrowed securities to initiate short sales or cover failed trades. The net income from security lending program for FY 13 was \$12.0 million compared to \$4.4 million for FY 12. Included in the \$12.0 million net income is an unrealized gain of \$8.9 million related cash received on a recovery of a securities lending loss in 2009. Securities lending net income for FY 13 without the gain is \$3.1 million.

During the late summer and early fall of 2012, ongoing monitoring of ASRS exposures showed growing risks throughout Europe and in the European banking sector. In an effort to reduce the securities lending investment pools' exposure to the European banking sector, the ASRS substantially withdrew from securities lending in September 2011. As a result, the market value of the securities on loan decreased markedly with a concurrent reduction in lending revenues. As of June 30, 2013, the ASRS remained substantially removed from securities lending activities at State Street. However, during the course of fiscal year 2013, the ASRS did participate in smaller opportunistic lending to take advantage of highly lucrative, relatively low risk transactions.

#### **Current Market Conditions**

The U.S. economy is healing as reflected in the U.S. equity markets outperforming other public asset classes during fiscal year 2013. Internationally, there are nascent signs Europe is stabilizing, however, Asia is slowing. Projections are for slow, but not stellar growth over the next year that will be closely aligned with stimulus monetary policies and expected "tapering" of the Quantitative Easing program.

The ASRS continues to implement the Strategic Asset Allocation policy and will allocate assets tactically within guidelines as market opportunities present themselves.

Additional information is available upon request. Please direct your request to the:

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

## **Combined Statement of Plan Net Position**

For the Year Ended June 30, 2013 with Comparative Totals for 2012 (Dollars in Thousands)

	Retirement	Health Benefit Supplement Fund	Long Term Disability Fund	Com	bined
	Fund	(Note 8)	(Note 8)	2013	2012
ASSETS					
Cash (Note 3)	\$ 25,733	\$ 690	\$ -	\$ 26,423	\$ 25,748
Prepaid benefits	-	-	-	-	190,732
Total cash and prepaids	25,733	690	-	26,423	216,480
RECEIVABLES					
Accrued interest & dividends	65,711	2,868	_	68,579	67,534
Securities sold (Note 3)	39,185	1,700	_	40,885	439,563
Forward contracts (Note 5)	863,985	37,847	_	901,832	282,445
Contributions (Note 7)	67,161	1,196	883	69,240	36,179
Due from other funds (Note11)	36	5,823	2,949	8,808	25,353
Other	500	25,827	3,422	29,749	25,184
Total receivables	1,036,578	75,261	7,254	1,119,093	876,258
INVESTMENTS AT FAIR VALUE (Note 3)  Temporary investments  Securities lending collateral (Note 4)  Equity securities  Fixed income securities  Real estate  Private equity  Opportunistic  Total investments	1,864,001 14,812 17,777,630 5,096,855 1,632,251 1,631,641 1,208,384 <b>29,225,574</b>	123,125 648 769,633 221,801 71,780 73,453 53,809	2,070 - 178,909 55,474 19,183 - - 255,636	1,989,196 15,460 18,726,172 5,374,130 1,723,214 1,705,094 1,262,193 <b>30,795,459</b>	1,500,354 50,070 17,337,425 5,375,788 1,425,941 1,333,375 653,543 <b>27,676,496</b>
TOTAL ASSETS	30,287,885	1,390,200	262,890	31,940,975	28,769,234
LIABILITIES					
Payable for securities purchased (Note 3)	320,449	13,964	-	334,413	530,666
Payable for securities lending collateral (Note 4)	14,812	648	-	15,460	50,070
Forward contracts payable (Note 5)	851,760	37,324	-	889,084	249,501
Due to other funds (Note 11)	8,808	-	-	8,808	25,353
Other	66,626	2,930	270	69,826	51,408
TOTAL LIABILITIES	1,262,455	54,866	270	1,317,591	906,998
NET POSITION HELD IN TRUST FOR PENSION/OPEB BENEFIT	\$ 29,025,430	\$ 1,335,334	\$ 262,620	\$ 30,623,384	\$ 27,862,236

The accompanying notes are an integral part of these statements.

## **Combined Statement of Changes in Plan Net Position**

For the Year Ended June 30, 2013 with Comparative Totals for 2012 (Dollars in Thousands)

	Retirement	Health Benefit Supplement Fund	: Long Term Disability Fund		bined
Additions	Fund	(Note 8)	(Note 8)	2013	2012
CONTRIBUTIONS					
Member contributions (Note 7)	\$ 948,004	\$ -	\$ 20,881	\$ 968,885	\$ 926,966
Employer contributions (Note 7)	911,300	57,154		989,790	927,628
Federal government reimbursement (Note 15)	-	-	-	-	19,978
Retrospective rate adjustment reimbursement (Note 16)	1 222	25,826	-	25,826	15,495
Transfers from other plans Purchased Service	1,233 70,790	-	_	1,233 70,790	2,236 51,423
Total Contributions	1,931,327	82,980	42,217	2,056,524	1,943,726
INCOME FROM INVESTMENT ACTIVITIES	2 444 722	101007	20 704	2 570 250	(440.040)
Net appreciation (depreciation) in fair value-public Interest income	2,444,729 188,095	104,837 8,343		2,579,350 196,439	(419,010) 200,652
Dividends income	342,972	15,328		358,302	295,186
Real estate income	222,493	9,592		232,085	170,147
Private equity income	228,223	10,136		238,359	192,720
Opportunistic income Other (expense) / income	138,531	5,981 (93		144,512 (2,434)	19,788 12,717
Total income from investment activities	(2,341) <b>3,562,702</b>	154,124	29,787	3,746,613	472,200
LESS INVESTMENT ACTIVITY EXPENSES					
Management fees and monitoring services-public	(63,845)	(2,793			
Real Estate expense Private Equity expense	(37,943) (55,934)	(1,630 (2,485	, , ,	(39,601) (58,419)	
Opportunistic expense	(22,902)	(2,483		(23,893)	
Total investment activity expenses	(180,624)	(7,899)			
Net income from investment activities	3,382,078	146,225	29,540	3,557,843	334,295
FROM SECURITIES LENDING ACTIVITIES (NOTE 4)	2.470	(10	,	2 4 6 4	2 020
Security lending income / (expense) Unrealized gain on security lending	2,179 8,427	(18 491		2,161 8,918	2,830
Total securities lending activities income	10,606	473		11,079	2,830
Security lending expenses	20,000	.,,		11/0/3	2,030
Interest rebate / (expense)	1,346	59	-	1,405	2,257
Management fees	(431)	(20	) -	(451)	(654)
Total securities lending activities expense	915	39		954	1,603
Net income from securities lending activities	11,521	512	-	12,033	4,433
Total net investment income	3,393,599	146,737	29,540	3,569,876	338,728
TOTAL ADDITIONS	5,324,926	229,717	71,757	5,626,400	2,282,454
Deductions					
Retirement and disability benefits	2,406,899	95,763	63,613	2,566,275	2,457,052
Survivor benefits	38,442	-	-	38,442	29,731
Refunds to withdrawing members, including interest Administrative expenses	218,607 32,851	1,439	2,739	218,607 37,029	207,289 35,162
Transfers to other plans	725	1,439	2,739	725	5,024
Other	4,066	-	108	4,174	767
TOTAL DEDUCTIONS	2,701,590	97,202	66,460	2,865,252	2,735,025
NET INCREASE (DECREASE)	\$ 2,623,336	\$ 132,515	\$ 5,297	\$ 2,761,148	\$ (452,571)
NET POSITION HELD IN TRUST FOR PENSION/OPEB BENEFIT					
Beginning of year	26,402,094	1,202,819	257,323	27,862,236	28,314,807

The accompanying notes are an integral part of these statements.

## **NOTES TO THE BASIC FINANCIAL STATEMENTS**

#### 1. Description of the System

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. 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. 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.

**Reporting Entity** – The financial statements of the ASRS include the financial activities of all the above funds. The ASRS Retirement Board of Trustees (the Board), who oversees the ASRS, are appointed by the governor and confirmed by the Arizona State Senate.

Contributions – Participating employers and their employees contribute percentages of employees' salaries for retirement annuities, survivor annuities, health insurance supplements and long term disability in accordance with A.R.S. Employee contributions toward retirement benefits are excluded from the employees' gross income for Federal and State income tax purposes. However, employee contributions for long term disability are included in the employee's taxable wages and, therefore, fully taxable. Employers collect contributions from the employees, add their matching share and remit the total amounts to the ASRS.

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 can be paid.

Costs of administering the funds are appropriated by the State legislature and financed through contributions and investment earnings.

At June 30	2013 and 2012	respectively the	he number of r	particinating emr	olovers and er	nployees totaled:
Tit Julie Jo	, 2015 una 2012,	respectively the	ine mannoer or p	our norpaning only	no yers and er	iipio jees totalea.

Employer Units	2013	2012
School Districts	242	243
Charter Schools	143	148
Cities and Towns	78	80
Counties	93	15
Special Districts	15	93
Community College Districts	10	10
Universities	3	3
State Government	1	1
Total	585	<sup>1</sup> 593
Employee Members		
Retirees (including Beneficiaries)	122,257	112,306
Non Active Fully Vested	208,573	204,203
Long Term Disability Recipients	4,443	4,646
Current Employees - Active	207,572	214,346
Total	542,845	535,501

<sup>&</sup>lt;sup>1</sup> The 585 Employer Reporting Units represent 690 total employers. Of the retirees noted above, 70,241 are receiving health insurance premium benefits.

**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 the invested funds. The ASRS provides for retirement, disability, health insurance premium supplemental benefits and survivor benefits. Retirement benefits are calculated on the basis of age, average monthly compensation, and service credit, 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 on (a) their 65th birthday, (b) their 62nd birthday and completion of at least 10 years of credited service, (c) when the sum of their age plus total credited service equals 80. Members with initial membership dates on or after July 1, 2011 are eligible for full retirement benefits on (a) and (b) above, (c) their 60<sup>th</sup> birthday and completion of at least 25 years of credited service, or (d) their 55<sup>th</sup> birthday and completion of at least 30 years of service. The benefit is based on a percentage of average monthly compensation multiplied by the years of service credit. The percentage of

average monthly compensation varies with years of service credit according to the following schedule:

Years of Service							
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%					

Members who began participation in the Plan prior to January 1, 1984, may choose to have average monthly compensation determined based upon the period of 60 consecutive months during which the member receives the highest compensation within the last 120 months of service, including lump sum payments as described above. Persons who attain age 50 with at least five years of total credited service may take an early retirement, however, the amount of their retirement benefit is actuarially reduced.

Prior to July 1, 2011, average compensation is defined as the period of 36 consecutive months during which a participant receives the highest compensation within the last 120 months of service during which the employee made retirement contributions as required by law.

#### NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

Participants with an initial membership date on or after July 1, 2011, the average monthly compensation is defined as the average of the highest consecutive 60 months in the last 120 months.

The compensation does not include lump sum payments on termination of employment for accumulated vacation or annual leave, sick leave, compensatory time or any other form of termination pay

Effective July 1, 1988, members of the ASRS are eligible for a Long Term Disability (LTD) benefit in the event they become unable to perform their work. The monthly benefit is equal to two-thirds 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 higher than 30 years.

The Retiree Group Insurance Program offers health insurance coverage for retired and disabled members who are no longer covered by insurance administered by their former member employers. Commencing January 1, 1989, retired and disabled members of ASRS became eligible for the Health Insurance Premium Supplement Benefit Program (HBS). Effective July 29, 2010, members must have insurance provided by either their former employer or ASRS in order to be eligible for HBS. A detailed explanation of both the LTD and HBS programs is presented in the Additional Benefits section (Note 8).

**Termination** – Upon termination of employment, members can elect to receive all of their contributions made to the Plan, plus accrued interest at 4 percent.

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

Years of Service	% of Employer Contributions
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 are prepared using the accrual basis of accounting, under which expenses are recognized when the liability is incurred and revenues are recognized in the accounting period in which they are due, pursuant to statutory requirements. Contributions from employees and employers for service through June 30 are accrued. Contributions are considered to be fully collectible and, accordingly, no allowance for uncollectible receivables is reflected in the financial statements.

Benefit and refund payments are recognized when due and payable in accordance with the terms of the retirement health benefit supplement and long term disability plan.

Investment income derived from publically traded investments is recognized when earned and investment and other expenditures are recorded when incurred.

Investments – Investments include domestic and international equities, domestic fixed income, real estate, private equity, opportunistic, commodities and cash equivalent instruments.

Publically 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 Plan Net Position. Changes in fair values of derivative instruments are reported as net appreciation of fair value on the Statement of Changes in Plan Net Position.

The fair value of real estate, private equity and opportunistic 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.

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

Net investment income from investment activities includes net appreciation in the fair value of investments, interest income, dividend income, real estate, private equity and opportunistic investment income and total investment expense. This includes investment management, real estate, private equity and opportunistic investment expenses and all other significant investment related costs. There are certain market risks, credit risks, liquidity risks, foreign currency exchange risks, and event risks, which may subject ASRS to economic changes occurring in certain industries, sectors, or geographies. See Note 3 for a more in-depth discussion of risk.

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:

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 the year ended June 30, 2013, the ASRS did not have any capitalizable expenditures at or above the above stated thresholds.

Federal Income Tax Status – During the year ended June 30, 2013, 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, 2012, which is the latest available information. Significant actuarial assumptions used in the valuations are included in the notes to the required supplemental schedules.

#### NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

**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.

Comparative Data – The accompanying financial statements include certain prior-year summarized comparative information in total, not by fund. Such information should be read in conjunction with the ASRS' financial statements for the year ended June 30, 2012, from which the summarized information was derived.

**New Accounting Pronouncements** – Governmental Accounting Standards Board (GASB) Statement No. 60, Accounting and Financial Reporting for Service Concession Arrangements, was issued and is effective for periods beginning after December 15, 2011. There is no effect on the ASRS financial statements.

GASB Statement No. 61, *The Financial Reporting Entity:* Omnibus, was issued and is effective for periods beginning after June 15, 2012. This Statement amends GASB Statement No. 14, The Financial Reporting Entity, and GASB Statement No. 34, Basic Financial Statements and Management's Discussion and Analysis – For State and Local Governments. There is no effect on the ASRS financial statements.

GASB Statement No. 62, Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements, was issued and is effective for periods beginning after December 15, 2011. As the ASRS had already incorporated applicable provisions, there is no effect on the ASRS financial statements.

GASB Statement No. 63, Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources,

and Net Position, was issued and is effective for periods beginning after December 15, 2011. There is no effect on the ASRS financial statements.

#### 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** – 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.

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 enterprise of a like character and with like aims as that of the system, subject to certain statutory limitations and restrictions. 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 investments.

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

- 1. No more than 80 percent of the ASRS' assets may be invested at any given time in equities, measured at market value.
- 2. No more than 5 percent 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 percent of the ASRS' assets may be invested in non-U.S. public investments, measured at market value.
- 4. No more than 60 percent of the ASRS' assets may be invested internally, measured at market value.
- 5. No more than 10 percent of the ASRS' assets may be invested in bonds or other evidences of indebtedness of those multinational development banks in which the United States 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 percent 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 \$40.9 million and a payable for securities purchased of \$334.4 million at June 30, 2013.

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. All securities are registered in the name of the ASRS including loaned securities.

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 percent 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.

## **Investments by Investment Type**

At June 30, 2013 (Dollars in Thousands)

Investment	Retirement HBS		LTD	2013 Fair Value
TEMPORARY INVESTMENTS				
Cash and Cash Equivalents	\$ 765,900	\$	2,070	\$ 767,970
Foreign Currency	175,995		-	175,995
Temporary Investments including U.S. Tbills	1,045,231		-	1,045,231
Total Temporary Investments	1,987,126		2,070	1,989,196
SECURITIES LENDING COLLATERAL				
Domestic Equity	13,248		_	13,248
Non-U.S. Equity	2,212		=	2,212
Total Securities Lending Collateral	15,460		-	15,460
EQUITY SECURITIES				
Domestic Equity	12,117,793		121,928	12,239,721
Non-U.S. Equity	6,429,471		56,980	6,486,451
Total Equity Securities	18,547,264		178,908	18,726,172
FIXED INCOME SECURITIES				
Corporate Obligations	2,442,463		16,375	2,458,838
Government Obligations	2,876,192		39,100	2,915,292
Total Fixed Income Securities	5,318,655		55,475	5,374,130
OTHER INVESTMENTS				
Real Estate	1,704,031		19,183	1,723,214
Private Equity	1,705,094		-	1,705,094
Opportunistic	1,262,193		-	1,262,193
Total Other Investments	4,671,318		19,183	4,690,501
TOTAL INVESTMENTS AT FAIR VALUE	30,539,823		255,636	30,795,459
Short Term Investment Receivables	1,011,296		_	1,011,296
Short Term Investment Payables	(1,287,742)	)	-	(1,287,742)
INVESTMENTS AT FAIR VALUE - NET	\$30,263,377	\$	255,636	\$30,519,013

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.

The following table presents the fixed income investments at June 30, 2013 categorized to give an indication of the level of risk assumed by ASRS:

## **Debt Securities Credit Quality Risk (Fixed Income Securities)**

At June 30, 2013 (Dollars in Thousands)

Moody's Credit Rating	Fair Value	Fair Value as Percent of Total Debt Securities Investments
Aaa	\$ 211,899	3.94%
Aa1-Aa3	1,967,781	36.63%
A1-A3	501,097	9.32%
Baa1-Baa3	608,942	11.33%
Ba1-Ba3	364,953	6.79%
B1-B3	579,746	10.79%
Caa1-Caa3	245,311	4.56%
Ca-C	19,351	0.36%
D	14,435	0.27%
NR <sup>1</sup>	2,269	0.04%
NA <sup>2</sup>	858,346	15.97%
Total <sup>3</sup>	\$ 5,374,130	100.00%

<sup>&</sup>lt;sup>1</sup> NR total of \$2,269 represents those securities that are not rated.

<sup>&</sup>lt;sup>2</sup> NA represents those securities that are not applicable to the rating disclosure requirement. The fair value of \$858,346 is classified as Corporate Bonds totaling \$348,253 and Government Bonds totaling \$510,093.

<sup>&</sup>lt;sup>3</sup> Total of \$5,374,130 represents the total corporate bonds of \$2,458,838 and total government bonds of \$2,915,292.

## **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

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 uses effective duration to identify and man-

age 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, 2013 (Dollars in Thousands)

Investment	F	air Value	Effective Duration (in years)
DOMESTIC FIXED INCOME INVESTMENTS			
Asset Backed Securities	\$	220,534	7.7
Commercial Mortgage Backed		156,333	2.8
Corporate Bonds		2,035,548	5.2
Non-Government Backed CMO's		46,423	10.6
Total Corporate Bonds		2,458,838	-
GOVERNMENT BONDS			
Government Related		329,312	7.5
Government Agencies CMO's		18,975	7.1
Government Bonds		1,718,469	5.7
Government Mortgage Backed		848,536	3.4
Total Government Bonds		2,915,292	-
TOTAL DEBT SECURITIES	\$	5,374,130	

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 allowed to invest part of its assets in foreign investments. According to Arizona State statutes, no more than 40 percent 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, 2013 (Dollars in Thousands)

Currency Type	Temporary Investments	Fixe Incon		Equity Securities	Real Estate	Private Equity	Total
Australian Dollar	\$ 147	\$	-	\$ 50,462	\$ -	\$ -	\$ 50,609
Brazilian Real	56	8:	1,850	1,573	-	-	83,479
Canadian Dollar	15	4	4,495	50,793	-	-	55,303
Columbian Peso	282	19	9,387	-	-	-	19,669
Danish Krone	-		-	24,745	-	-	24,745
Euro Currency	14,385	Ġ	9,882	491,156	33,793	183,342	732,558
Hong Kong Dollar	134		-	65,698	-	-	65,832
Hungarian Forint	-	Ċ	9,764	-	-	-	9,764
Indonesian Rupiah	47	33	3,848	-	-	-	33,895
Israeli Shekel	11		-	2,826	-	-	2,837
Japanese Yen	2,028		-	369,721	-	-	371,749
Mexican Peso	4,428	8:	1,459	(193)	124,663	-	210,357
Malaysian Ringgit	570	5!	5,729	(13)	-	-	56,286
New Russian Ruble	123	30	0,767	-	-	-	30,890
New Zealand Dollar	1		-	1,612	-	-	1,613
Nigerian Naira	391	Ġ	9,213	-	-	-	9,604
Norwegian Krone	9		-	10,164	-	-	10,173
Peruvian Nouveau Sol	-	Ġ	9,003	-	-	-	9,003
Philippine Peso	-		3,137	-	-	-	3,137
Polish Zloty	-	26	6,539	-	-	-	26,539
Pound Sterling	5,014		745	465,613	-	-	471,372
Singapore Dollar	28		-	58,323	-	-	58,351
South African Rand	696	57	7,123	4,065	-	-	61,884
South Korean WON	21		-	18,748	-	-	18,769
Swedish Krone	-		-	46,482	-	-	46,482
Swiss Franc	57		-	205,403	-	-	205,460
Taiwan Dollar	19		-	6,928	-	-	6,947
Thailand Baht	6	12	2,341	-	-	-	12,347
Turkish Lira	98	29	9,034				 29,132
Total	\$ 28,566	\$ 474	,316	\$ 1,874,106	\$ 158,456	\$ 183,342	\$ 2,718,786

#### 4. Securities Lending Program

Arizona Revised Statutes Section 38-715(D)(3) 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 percent of the market value of the loaned securities and maintains collateral at no less than 100 percent 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 Plan 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, 2013, the fair value of securities on loan was \$871.7 million; of which \$14.8 million were cash collateralized loans. Cash of \$15.5 million received as collateral for securities loaned was reinvested and had a net asset value of \$14.8 million as of June 30, 2013. The securities lending payable at June 30, 2013, was \$15.5 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.

During the late summer and early fall of 2011, ongoing monitoring of ASRS securities lending exposure showed growing risks throughout Europe and in the European banking sector. In an effort to reduce the securities lending investment pools' exposure to the European banking sector, the ASRS substantially withdrew from securities lending in 2011. As a result, the market value of securities on loan decreased from \$3.45 billion as of June 30, 2011 to \$49.4 million at June 30, 2012. Throughout FY 13, the ASRS remained substantially withdrawn from securities lending, but did enter into opportunistic transactions to take advantage of highly profitable and relatively low risk trades. These opportunistic transactions were in place as of June 30, 2013 resulting in a market value of securities on loan of \$871.7 million as of the close of the fiscal year.

During fiscal year 2013, ASRS received cash of \$8.9 million as partial recovery of the securities lending unrealized loss recognized in fiscal year 2009.

#### 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 Plan Net Position. Changes in fair values of derivative instruments are reported as net appreciation of fair value on the Statement of Changes in Plan Net Position.

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2013, classified by type, and the changes in fair value of derivative instruments for the year then ended as reported in the June 30, 2013 financial statements are as follows:

## **Investment Derivatives by Type**

(Dollars in Thousands)

	Changes in Fair Val	ue (1)	Fair Value at	June 30, 2013	3	
<b>Investment Derivatives</b>	Classification	Amount (2)	Classification	Amount (3)	Notional (4)	
Commodity Futures Long	Net Appreciation in Fair Value	\$ (100,684)	Not Applicable	\$ -	300,018	
Commodity Futures Short	Net Appreciation in Fair Value	27,359	Not Applicable	-	(33)	
Credit Default Swaps Bought	Net Appreciation in Fair Value	(1,582)	Equity Securities	231	\$ 41,803	
Credit Default Swaps Written	Net Appreciation in Fair Value	197	Equity Securities	16	\$ 5,782	
Fixed Income Futures Long	Net Appreciation in Fair Value	(1,726)	Not Applicable	-	168,300	
Fixed Income Futures Short	Net Appreciation in Fair Value	(754)	Not Applicable	-	(14,888)	
Fixed Income Options Bought	Net Appreciation in Fair Value	(289)	Not Applicable	-	-	
Fixed Income Options Written	Net Appreciation in Fair Value	136	Equity Securities	(4)	(5,000)	
Foreign Currency Futures Long	Net Appreciation in Fair Value	(34,754)	Not Applicable	-	295,022	
Foreign Currency Options Bought	Net Appreciation in Fair Value	218	Not Applicable	-	-	
Foreign Currency Options Written	Net Appreciation in Fair Value	65	Equity Securities	(4)	(2,000)	
Foreign Currency Forwards	Net Appreciation in Fair Value	(1,347)	Forward Contracts Receivable	(5,197)	\$ 892,592	
Index Futures Long	Net Appreciation in Fair Value	243,626	Not Applicable	-	13,318	
Index Futures Short	Net Appreciation in Fair Value	(920)	Not Applicable	-	-	
Pay Fixed Interest Rate Swaps	Net Appreciation in Fair Value	(1,348)	Equity Securities	425	\$ 3,100	
Receive Fixed Interest Rate Swaps	Net Appreciation in Fair Value	(1,553)	Equity Securities	(1,986)	\$ 74,750	
Rights	Net Appreciation in Fair Value	(39)	Equity Securities	22	\$ 722	
Warrants	Net Appreciation in Fair Value	(86)	Equity Securities	90	\$ 244	
Total		\$ 126,519		\$ (6,407)		

- (1) Excludes futures margin payments.
- (2) Brackets refer to losses.
- (3) Brackets refer to liabilities.
- (4) Notional may be a dollar amount or size of underlying futures and options; brackets refer to short positions.

## NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

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)

Counterparty Name	Total Net Exposure	Risk Concentration	S&P	RATINGS Fitch	S Moody's
Bank of America N.A.	\$ 154	1.52%	Α	Α	А3
Bank of New York	1	0.01%	<b>A</b> +	AA-	AA3
Barclay's Bank	1,087	10.73%	A+	Α	A2
BNP Paribas, S.A.	147	1.45%	A+	A+	A2
Citibank N.A.	626	6.18%	Α	Α	А3
Credit Suisse	275	2.72%	<b>A</b> +	Α	A1
Deutsche Bank London	754	7.44%	<b>A</b> +	A+	A2
Goldman Sachs	259	2.56%	A-	Α	А3
HSBC Bank USA	157	1.55%	AA-	AA-	A1
JP Morgan Chase Bank N.A.	2,293	22.63%	A+	A+	Aa3
Morgan Stanely and Co. Inc.	205	2.02%	A-	Α	Baa1
Royal Bank of Canada	142	1.40%	AA-	AA	Aa3
Royal Bank of Scotland, PLC	150	1.48%	Α	Α	А3
Societe Generale	263	2.59%	Α	A+	A2
Standard Chartered Bank	1,248	12.31%	AA-	AA-	A1
State Street Bank and Trust Co.	89	0.88%	AA-	A+	Aa2
USB AG	2,066	20.39%	Α	Α	A2
Westpac Banking Corporation	217	2.14%	AA-	AA-	Aa2
Total	\$ 10,133	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.

ASRS' derivatives do not have contingent features.

The aggregate fair value of investment derivative instruments in asset positions at June 30, 2013 was \$10.1 million. This represents the maximum amount of loss in case of default of all counterparties for the aggregated (positive) fair value of over-the-counter positions as of June 30, 2013. There was no collateral received or netting arrangements in place at June 30, 2013 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, 2013, for the year then ended as reported in the June 30, 2013 financial statements are as follows:

#### **Interest Rate Risk for Interest Rate Swap**

(In Thousands)

Asset ID	Asset Description	Interest Rate	Fai	ir Value	Notional
PAY FIXED INT	EREST RATE SWAPS				
99S0EIVKO/ 99S0EIVL8	BWU002SF0 IRS USD R V 03MLIBOR / BWU002SF0 IRS USD P F 2.75000	2.75%	\$	425	\$ 3,100
Total Pay	Fixed Interest Rate Swaps		\$	425	\$ 3,100
RECEIVE FIXE	D INTEREST RATE SWAPS				
99S0CHEZ0/ 99S0CHF06	SWU0083W7 IRS CAD R F 2.00000 / SWU0083W7 IRS CAD P V 03MCDOR	2.00%	\$	(3)	\$ 7,868
99S0CKO58/ 99S0CKO66	SWU000609 IRS CAD R F 2.25000 / SWU000609 IRS CAD P V 03MCDOR	2.25%		(3)	6,351
99S0EIJN8/ 99S0EIJO6	SWU002S11 IRS ZAR R F 6.50000 / SWU002S11 IRS ZAR P V 03MJHBRG	6.55%		(57)	997
99S0EM2K3/ 99S0EM2L1	SWU023WC8 IRS BRL R F 8.65000 / SWU023WC8 IRS BRL P V 00MCETIP	8.65%		(38)	815
99S0EOQE7/ 99S0EOQF4	SWU0031Z3 IRS ZAR R F 6.50000 / SWU0031Z3 IRS ZAR P V 03MJIBAR	6.50%		(294)	5,127
99S0EPYZ8/ 99S0EPZ04	SWU023FY9 IRS BRL R F 8.16000 / SWU023FY9 IRS BRL P V 00MBRCDI	8.16%		(89)	4,980
99S0F2PN5/ 99S0F2PO3	SWU0283Z8 IRS BRL R F 8.94000 / SWU0283Z8 IRS BRL P V 00MBRCDI	8.94%		(568)	13,988
99S0F3K81/ 99S0F3K99	SWU023N12 IRS BRL R F 8.48500 / SWU023N12 IRS BRL P V 00MBRCDI	8.49%		(163)	11,860
99S0F4N52/ 99S0F4N60	SWU003JU5 IRS MXN R F 5.50000 / SWU003JU5 IRS MXN P V 01MTIIE	5.50%		(134)	1,704
99S0FDS57/ 99S0FDS65	SWU003SX9 IRS BRL R F 8.87500 / SWU003SX9 IRS BRL P V 00MBRCDI	8.88%		(572)	13,173
99S0FFWB4/ 99S0FFWC2	SWU003VI8 IRS MYR R F 3.36000 / SWU003VI8 IRS MYR P V 03MKLIBO	3.36%		(13)	1,200
99S0FT056/ 99S0FT064	SWU003NG1 IRS MXN R F 5.00000 / SWU003NG1 IRS MXN P V 01MTIIE	5.00%		(59)	2,341
99S0FZ5T1/ 99S0FZ5U8	SWU004PQ5 IRS BRL R F 10.91000 / SWU004PQ5 IRS BRL P V 00MBRCDI	10.91%		7	4,346
Total Rec	eive Fixed Interest Rate Swaps	•	\$	(1,986)	\$ 74,750

#### NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

**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. Funding Status and Progress

Significant actuarial assumptions used in the June 30, 2012 Actuarial Valuation for the Retirement and the Health Insurance Premium Benefit Plans, the most recent actuarial valuation available, include: a rate of return on investment of present and future assets of 8 percent, compounded annually, projected salary increases ranging from 4 percent to 9 percent per year, inflation rate assumption of 3.25 percent, rates of disability, rates of withdrawal, rates of retirement, mortality rates, mortality rates after disability, valuation of assets using fair value with a ten-year phase-in of investment gains and losses, and the Projected Unit Credit (PUC) funding method. The unfunded accrued liability is amortized over a thirty-year rolling period with level dollar payments.

Significant actuarial assumptions used in the June 30, 2012 Actuarial Valuation for the Long Term Disability Plan, the most recent actuarial valuation available, are the same as those used in the valuation of the Retirement Plan and the Health Insurance Premium Benefit Plan. The Long Term Disability Plan valuation uses the Projected Unit Credit (PUC) method of funding. Assets

are valued at market, plus (or minus) an adjustment to reflect investment gains (or losses) over a ten year period. The unfunded actuarial accrued liability is amortized over a rolling fifteen years in level dollar payments. All assumptions used in the actuarial valuations are based on five year experience studies. The ASRS Board approves all substantive actuarial assumptions and methods.

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.

Schedules of employer contributions, also presented as required supplementary information following the notes to the financial statements, present trend information about the amounts contributed to the plan by employers in comparison to the annual required contribution (ARC).

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

Actuarial Valuation	Actuarial Value of Assets	A L Pr	ctuarial ccrued iability ojected it-Credit	Ac	funded tuarial ccrued ability	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
June 30	a		b	(	b - a)	(a/b)	С	[(b-a)/c]
RETIREMENT	PLAN							
2012	\$ 28,948	\$	38,450	\$	9,502	75.3%	\$ 8,869	107.1%
HEALTH INSU	IRANCE PR	EMI	UM BENE	FIT				
2012	\$ 1,282	\$	1,502	\$	220	85.3%	\$ 8,869	2.5%
LONG TERM D	ISABILITY	PR	OGRAM					
2012	\$ 296	\$	440	\$	144	67.3%	\$ 8,869	1.6%

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 thirty-year rolling period for the Retirement and HBS plans and over a fifteen-year period for the LTD plan.

The funding progress and the ARC have been actuarially determined in accordance with the parameters of GASB Statement 25 for the Retirement Plan and GASB Statement 43 for the Health Benefit Supplement and LTD Plans.

Projections of benefits for financial reporting purposes are based on the substantive plan and include the types of benefit 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.

#### 7. Contributions Required and **Contributions Made**

The Arizona State Statutes provide statutory authority for determining the employees' and employers' contribution amounts as a percentage of covered payrolls. Employers are required to contribute at the same total rate as employees. Employees' contributions are applied towards the Retirement Plan and LTD. Employers' contributions are applied towards the Retirement Plan, Health Insurance Premium Supplement Plan, and the LTD Plan. There is no legal or contractual maximum contribution rate for employees or employers.

Legislation, which became law as of July 1, 2005, requires annual contribution rate calculations for all fiscal years beginning after fiscal year end 2007. The actuarial assumptions used in this measure are those adopted by the ASRS' Board in November 2009 and November 2011. The contribution rates for the retirement, the health insurance premium supplement and the long term disability plans were actuarially determined using the projected unit credit (PUC) funding method.

Each employer and each member contribute at a rate of one-half the total percent of pay needed to pay the normal cost of the Plan and to amortize the unfunded actuarial accrued liability over a rolling thirty-year period for the retirement plan and the health insurance supplement plan. The long term disability plan uses a rolling fifteen-year period to reflect the shorter duration of LTD benefits.

Beginning July 1, 2012, legislation was enacted to provide for an Alternate Contribution Rate (ACR) that an ASRS employer is required to pay for retired members who return to work in positions that would typically be filled by an employee that contributes to ASRS. The ACR for the year ended June 30, 2013 was 8.64 percent (8.46 percent retirement and .18 percent LTD). ACR contributions totaling \$21.8 million were received in FY13 and are included in Employer Contributions on the Statement of Changes in Net Position.

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

The contribution rates for the years ended June 30, 2013 and 2012 were as follows:

	(2011 Va	aluation)	(2010 Va	aluation)
		ion period ending 0, 2013		ion period ending 0, 2012
	Amount	Percent of Covered Payroll	Amount	Percent of Covered Payroll
RETIREMENT				
Normal cost  Amortization of under-funded past service	\$ 1,170,467,758	12.92%	\$ 1,215,140,371	12.90%
liability	745,797,074	8.23%	699,150,795	7.47%
Retirement Total	1,916,264,832	21.15%	1,914,291,166	20.37%
HEALTH PREMIUM BENEFIT TOTAL				
Normal cost  Amortization of under-funded past service	38,425,708	0.42%	40,276,497	0.43%
liability	21,116,897	0.23%	19,262,240	0.20%
Health Premium Benefit Total	59,542,605	0.65%	59,538,737	0.63%
LONG TERM DISABILITY				
Normal cost	28,164,635	0.30%	30,456,285	0.32%
Amortization of under-funded past service liability	16,027,178	0.18%	17,087,235	0.18%
Long Term Disability Total	44,191,813	0.48%	47,543,520	0.50%
ACTUARIAL TOTAL	2,019,999,250	22.28%	2,021,373,423	21.50% <sup>2</sup>
CONTRIBUTIONS MADE AS A PERCENTAGE OF	THE CURRENT YEAR	COVERED PAYROLL <sup>1</sup>	l	
Employers' Retirement	889,580,056	10.25%	850,456,018	9.87%
Employees' Retirement	948,003,563	10.90%	905,967,958	10.50%
Employers' Health Premium Benefit	56,572,846	0.65%	54,462,585	0.63%
Employers' Long Term Disability	20,880,949	0.24%	20,998,181	0.24%
Employees' Long Term Disability	20,880,949	0.24%	20,998,181	0.24%
Total	\$ 1,935,918,363	22.28%	\$ 1,852,882,923	21.48% <sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Retirement contributions from the employer for 2013 and 2012, exclude employer unfunded liabilities related to early termination incentive offers of \$931,385 and \$1,711,105, respectively. In addition, the 2013 retirement contributions from employers excludes \$20,788,239 in ACR contributions. Health Premium Benefit and LTD employer contributions for 2013, exclude ACR contributions of \$580,684 and \$455,002, respectively. Early incentive offers and ACR are not part of the required contribution rate.

The statutory contribution rate and actuarially determined contribution rate for the year ended June 30, 2012 was 10.74 percent for both the employees' and employers' portion. (Employees paid 10.50 percent retirement and .24 percent long term disability. Employers paid 9.87 percent retirement, .63 percent for the health insurance premium supplement and .24 percent for long term disability.) This rate was determined by the 2010 actuarial valuation. It is applied to the covered payroll to determine the employee and employer contri

butions. The statutory contribution rate and the actuarially determined contribution rate for the year ended June 30, 2013 was 11.14 percent for both the employees' and employers' portion. (Employees paid 10.90 percent retirement and .24 percent long term disability. Employers paid 10.25 percent for retirement, .65 percent for the health insurance premium supplement and .24 percent for long term disability.) This rate was determined by the 2011 actuarial valuation. It is applied to the covered payroll to determine the employee and

<sup>&</sup>lt;sup>2</sup> The difference is due to rounding adjustment resulting from the retroactive reversion of the contribution rate from 53/47 back to 50/50 as of July 1, 2011.

employer contributions. GASB Statement No. 25 defines covered payroll as all elements included in compensation paid to active employees on which contributions to a pension plan are based.

Early termination incentive offers billed to employers of \$931,385 are included in total employer contributions for the year ended June 30, 2013. Pursuant to A.R.S. §38-749, employers must pay any unfunded liability resulting from termination incentive programs that they offer if the incentive results in an actuarial unfunded liability to ASRS. The unfunded liabilities were calculated by ASRS' actuary.

#### 8. Additional Benefits

In addition to the pension benefits described, the ASRS offers the Retiree Group Insurance Program and the Health Insurance Premium Benefit Program to eligible retired and disabled members. A retired member is defined as a member actively receiving an annuity benefit and a disabled member is defined as a member receiving an LTD benefit through the LTD program administered by the ASRS. The employees' and member employers' each contributed .24 percent of compensation to the LTD fund in FY 13 and .24 percent in FY 12.

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. As of June 30, 2013, more than 47,469 coverage agreements currently exist for retired and disabled members and their dependents.

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. This assistance is provided to those members who elect group coverage through either the ASRS Retiree Group Insurance Program or their former member employer.

In FY 13, the employer's retirement contribution of 10.25 percent of compensation included .65 percent for the Health Premium Insurance Supplement.

Members who retire after December 31, 2003, can elect to receive a reduced premium benefit so that an eligible contingent annuitant may continue to receive a premium benefit after the member's death. The ASRS reimbursed approximately \$95.8 million and \$94.0 million towards the cost of group health insurance coverage for the years ended June 30, 2013 and 2012, respectively.

The following chart illustrates the maximum amount of the monthly available benefit for eligible members and their dependents:

		WITHO	CARE A&B	COMBINATIONS							
Years of Credited Service	Percent of Premium Benefit	Retiree Only		Retiree & Retiree Dependents Only					Retiree & Dependent, One ith Medicare, the other without	N	Retiree & Dependent with Medicare, other pendent without
5.0-5.9	50 percent	\$ 75	\$ 1	30	\$ 5	0 \$	85	\$	107.50	\$	107.50
6.0-6.9	60 percent	90	1	56	6	0	102		129.00		129.00
7.0-7.9	70 percent	105	1	82	7	0	119		150.50		150.50
8.0-8.9	80 percent	120	2	80.	8	0	136		172.00		172.00
9.0-9.9	90 percent	135	2	34	9	0	153		193.50		193.50
10.0+	100 percent	150	2	60	10	0	170		215.00		215.00

## 9. 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.

#### 10. Commitments

In connection with the purchase of various limited partnership interests in real estate, private equity and opportunistic investment portfolios, the ASRS has commitments totaling \$4.1 billion. Remaining unfunded commitments for real estate, private equity and opportunistic investments are \$1.0 billion, \$1.8 billion and \$1.3 billion, respectively, as of June 30, 2013.

## 11. 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.

## 12. 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. Required supplementary information prepared in accordance with the parameters of GASB Statement No. 25 and GASB Statement No. 43 is included immediately following the Notes to the Financial Statements.

#### 13. Retirement Plans

All eligible ASRS employees participate in the Arizona State Retirement System. The ASRS is a cost-sharing, multiple-employer, defined benefit 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 A.R.S. The Long Term Disability Program is administered in accordance with Title 38, Chapter 5, Article 2.1

The ASRS Retirement Plan provides retirement, disability benefits and survivor benefits to members and their beneficiaries. 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 (LTD) benefits, respectively.

Effective July 1, 1995, the ASRS has established a fund for each benefit program and has reported those funds in the combined financial statements. The financial statements of the ASRS include the financial activities of all the above funds. The Board, appointed by the governor and confirmed by the Arizona State Senate, manages the ASRS.

The contribution rate is established and may be amended by the Board. The contribution rates for the Retirement, the HBS and the LTD plans are actuarially determined using the PUC funding method. There is no legal or contractual maximum contribution rate for employees or employers. The statutory contribution rates for the years ended June 30, 2013 and June 30, 2012, were 11.14 percent (10.90 percent retirement and .24 percent LTD) and 10.74 (10.50 percent retirement and .24 percent LTD), respectively. All eligible ASRS employees were required to contribute 11.14 percent of their annual covered salary, and the ASRS, as the employer, was required to match these contributions.

The contributions received were equal to the required contributions. The ASRS collects the contributions and remits them to the Plan. Employee contributions, except for LTD, are excluded from gross income for federal and state income tax purposes and earn interest at the rate of 8 percent per annum.

Beginning July 1, 2012, legislation was enacted to provide for an Alternate Contribution Rate (ACR) that an ASRS employer is required to pay for retired members

who return to work in positions that would typically be filled by an employee that contributes to ASRS. The ASRS, as the employer, paid these contributions on behalf of its return to work employees. The ACR for the year ended June 30, 2013 was 8.64 percent (8.46 percent retirement and .18 percent LTD).

Refunds to employees always include employee contributions, plus interest. The interest rate applied to account balances is set at 8 percent for purposes of survivor benefits, the same as the ASRS assumed earnings rate. However, for purposes of withdrawal only, interest of 4 percent is applied to balances accumulated after July 1, 2005, and interest of 2 percent is applied to balances accumulated after July 1, 2013. Members who join the ASRS on or after July 1, 2011 do not receive any employer contributions when refunding, unless separation is due to a reduction-in-force or position elimination.

The Plan provides benefits under formulas and provisions described in the law. Benefits and administrative expenses are paid from funds contributed by members and employers and from earnings on the invested funds.

Retirement benefits are calculated on the basis of age, average monthly compensation and service credit, which is established on a fiscal year basis (July 1 to June 30). The benefit is based on a percentage of average monthly compensation multiplied by the years of service credit.

Qualified ASRS employees are eligible for a LTD benefit in the event they become unable to perform their work. The Retiree Group Insurance Program offers health insurance coverage for both retired and disabled members.

Refer to Note 6 of these financial statements for current information regarding the funding status and progress of the retirement, health insurance premium benefit and the long term disability plans.

## **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

The ASRS, as the employer, made contributions for the past three years as follows:

Fiscal Year	Salary Base <sup>1</sup>	Retirement Contributions		HBS Contributions		LTD Contributions		Co	Total entributions	% of Required Contributions
2011	\$10,170,633	\$	915,762	\$	59,958	\$	26,090	\$	1,001,810	100%
2012	11,351,146		1,090,891		73,347		27,632		1,191,870	100%
2013	11,546,693		1,202,742		75,718		28,024		1,306,484 <sup>2</sup>	100%

<sup>1</sup> Represents salaries paid by ASRS as an employer on which contributions have been calculated.

## 14. Significant New Legislation

See Introductory Section for a complete listing of new legislation.

## 15. Early Retiree Reinsurance Program

The ASRS participated in the Early Retiree Reinsurance Program (ERRP) beginning in FY 12. ERRP is managed by the U.S. Department of Health and Human Services and reimburses employers for pre-Medicare health care costs. The ERRP was designed to provide financial assistance to health plan sponsors that make coverage available to early retirees (aged 55 and older) that are not yet eligible for Medicare. The program stipulates that the funds may only be used to:

- Reduce contribution levels (premiums) for all plan participants, to the extent possible, to 2009 levels,
- Mitigate ASRS health benefit cost increases while keeping minimum funding to at least 2009 levels.
- Hold in escrow to maintain member contributions and mitigate health benefit cost increases in future years.

The funds must be used by December 31, 2014. ASRS received \$19,978,334 in ERRP revenue for the year ended June 30, 2012. No ERRP revenue was received for the year ended June 30, 2013. As of June 30, 2013 the ASRS has \$18,283,301, in ERRP money, available for use as stipulated.

# 16. Retrospective Rate Adjustment Refund

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 \$25,825,525 and \$15,494,699 in retrospective rate adjustment refunds for revenue and claims expense activity during calendar year 2013 and 2012, respectively.

#### 17. Subsequent Events

The ASRS has evaluated subsequent events through October 22, 2013, the date the financial statements were available to be issued. Events or transactions occurring after June 30, 2013, but prior to October 22, 2013 that provided additional evidence about conditions that existed at June 30, 2013 have been recognized in the financial statements for the year ended June 30, 2013. Events or transactions that provided evidence about conditions that did not exist at June 30, 2013 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, 2013.

<sup>&</sup>lt;sup>2</sup> Includes ACR contributions of \$30,800.

## REQUIRED SUPPLEMENTARY INFORMATION

## **Schedule of Funding Progress**

For Year Ended June 30, 2013 (Dollars in Millions)

Actuarial Valuation Date June 30	Valuation Actu Date Val		A Li Pro	ctuarial ccrued ability ojected t-Credit	Ac Ac Li	funded tuarial ccrued ability b - a)	cuarial crued Funded Cov bility Ratio Pa		vered ayroll	Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll [(b-a)/c]
RETIREMENT F	UND									
2007	\$	25,310	\$	30,390	\$	5,080	83.3 %	\$	9,162	55.4 %
2008		26,613		32,425		5,812	82.1		9,708	59.9
2009		27,094		34,290		7,196	79.0		9,835	73.2
2010		38,683		36,073		8,501	76.4		9,420	90.2
2011		27,984		37,051		9,067	75.5		9,061	100.1
2012		28,948		38,450		9,502	75.3		8,869	107.1
HEALTH INSUR	ANCE	PREMIUM	BENI	EFIT						
2007	\$	1,167	\$	1,605	\$	438	72.7 %	\$	9,162	4.8 %
2008		1,239		1,446		207	85.7		9,708	2.1
2009		1,266		1,452		186	87.2		9,835	1.9
2010		1,251		1,485		234	84.2		9,420	2.5
2011		1,247		1,504		257	82.9		9,061	2.8
2012		1,282		1,502		220	85.3		8,869	2.5
LONG TERM DI	SABIL	_ITY PROG	RAM							
2007	\$	232	\$	604	\$	372	38.4 %	\$	9,162	4.1 %
2008		275		553		278	49.7		9,708	2.9
2009		311		476		165	65.3		9,835	1.7
2010		319		477		158	66.9		9,420	1.7
2011		308		456		148	67.5		9,061	1.6
2012		296		440		144	67.3		8,869	1.6

Values shown for dates on or after 2010 include System assets and liabilities for members whom retired or will retire on or after July, 1 1981.

See Notes to Required Supplementary Information.

## Schedule of Contributions from the Employer and Other Contributing Entities

For Year Ended June 30, 2013 (Dollars in Thousands)

		RETIREME	NT BENEFIT	LONG TERM DISABILITY BENEFIT					
	F	Annual Required ntribution	Percentage Contributed	R	Annual equired ntribution	Percentage Contributed			
2008	\$	759,482	100 %	\$	47,171	100 %			
2009		754,044	100		47,213	100			
2010 <sup>1</sup>		749,636	100		35,939	100			
2011 <sup>2</sup>		782,347	100		21,689	100			
2012 <sup>3</sup>		850,456	100		20,998	100			
2013 <sup>4</sup>		889,580	100		20,881	100			

 $<sup>^{1}</sup>$  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>&</sup>lt;sup>4</sup> The 2013 required contributions from the employer for retirement fund reflect total employer contributions of 911,299,680 less \$931,385 of unfunded employer liability related to early termination incentive offers and \$20,788,239 in ACR contributions. The 2013 required contributions from the employer for the LTD fund reflect total employer contributions of \$57,153,530 less ACR contributions of \$455,002. Early incentive offers and ACR are not part of the required contribution rate.

	HEALTH INSURANCE PREMIUM BENEFIT										
		equired tribution	Percentage Contributed	Other Contributions							
2008	\$	99,027	100 %	\$	-						
2009		90,490	100		-						
2010		59,393	100		-						
2011		51,048	100		-						
2012		54,463	100		35,473						
2013 <sup>6</sup>		56,573	100		25,826						

<sup>&</sup>lt;sup>5</sup> Other contributions represent Federal government reimbursements from the Early Retiree Reinsurance Program, and rate adjustment reimbursements from the insurance carrier.

 $<sup>^{</sup>f 2}$  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>&</sup>lt;sup>3</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>&</sup>lt;sup>6</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.

## **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.

The Projected Unit Credit (PUC) method is the actuarial cost method used in the valuations for the period ended June 30, 2012. The unfunded actuarial accrued liability is amortized over a 30 year rolling period for the Retirement Fund and the Health Insurance Premium Benefit. The Long Term Disability (LTD) Program's unfunded actuarial accrued liability is amortized over a rolling 15 year period to reflect the shorter duration of LTD benefits. The amortization method is the Level Dollar Method. The actuarial value of assets is the market value adjusted to phase in the recognition of investment gains and losses over a period of time. For 2002 and later years, the period is ten years. The investment return rate assumption is 8 percent per annum, compounded annually. The inflation rate assumption is 3.25 percent per annum. Members' salaries are assumed to increase at a rate of 4 percent to 9 percent per annum, depending on the length of service. The permanent benefit increase (PBI) reserve was zero as of June 30, 2012, as a result of the payment of the 2005 PBI.

## **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 judg-

ment 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 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 longestserviced 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.

#### NOTES TO REQUIRED SUPPLEMENTARY INFORMATION (CONTINUED)

# 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, sexdistinct, 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 retirement 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 high-income 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
- 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 6-month 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.

## **ADDITIONAL SUPPLEMENTARY INFORMATION**

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

For the Year Ended June 30, 2013 (Dollars in Thousands)

	Retirement Plan	Retirement System	Combined 2013
	Tidii	System	2015
ASSETS			
Cash	\$ 25,729	\$ 4	\$ 25,733
Prepaid benefits	-	-	-
Total cash and prepaids	25,729	4	25,733
RECEIVABLES			
Accrued interest & dividends	64,949	762	65,711
Securities sold	38,683	502	39,185
Forward contracts	850,777	13,208	863,985
Contributions	67,161	-	67,161
Due from other funds	-	36	36
Other	493	7	500
Total receivables	1,022,063	14,515	1,036,578
INVESTMENTS AT FAIR VALUE			
Temporary investments	1,840,871	23,130	1,864,001
Securities lending collateral	14,593	219	14,812
Equity securities	17,563,832	213,798	17,777,630
Fixed income securities	5,017,128	79,727	5,096,855
Real estate	1,608,736	23,515	1,632,251
Private equity	1,631,641	-	1,631,641
Opportunistic	1,191,349	17,035	1,208,384
Total investments	28,868,150	357,424	29,225,574
TOTAL ASSETS	29,915,942	371,943	30,287,885
LIABILITIES			
Payable for securities purchased	314,799	5,650	320,449
Payable for securities lending collateral	14,593	219	14,812
Forward contracts payable	838,814	12,946	851,760
Due to other funds	4,875	3,933	8,808
Other	65,818	808	66,626
TOTAL LIABILITIES	1,238,899	23,556	1,262,455
NET POSITION HELD IN TRUST FOR			
PENSION/OPEB BENEFIT	\$ 28,677,043	\$ 348,387	\$ 29,025,430

In accordance with GASB 25, 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. The Combining Schedule of Retirement Net Position and Changes in Retirement Net Position are presented here to provide members with more detailed information about the two plan components.

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

For the Year Ended June 30, 2013 (Dollars in Thousands)

8 d dinion a	Retirement	Retirement	Combined
Additions	Plan	System	2013
CONTRIBUTIONS			
Member contributions	\$ 947,959	\$ 45	\$ 948,004
Employer contributions	911,255	45	911,300
Federal government reimbursement	-	-	-
Retrospective rate adjustment reimbursement	-	-	-
Transfers from other plans	1,233	-	1,233
Purchased Service	70,790	-	70,790
Total Contributions	1,931,237	90	1,931,327
INCOME FROM INVESTMENT ACTIVITIES			
Net appreciation (depreciation) in fair value-public	2,422,221	22,508	2,444,729
Interest income	183,199	4,896	188,095
Dividends income	332,339	10,633	342,972
Real Estate income	219,535	2,958	222,493
Private Equity income	228,223	-	228,223
Opportunistic income	136,755	1,776	138,531
Other (expense) / income	(2,405)	64	(2,341
Total income from investment activities	3,519,867	42,835	3,562,702
LESS INVESTMENT ACTIVITY EXPENSES	(40.5	<b>,</b>	/an - : -
Management fees and monitoring services-public	(62,889)		(63,845
Real estate expense	(37,411)	` ,	(37,943
Private equity expense	(55,934)		(55,934
Opportunistic expense	(22,617)		(22,902)
Total investment activity expenses	(178,851)	(1,773)	(180,624)
Net income from investment activities	3,341,016	41,062	3,382,078
FROM SECURITIES LENDING ACTIVITIES (NOTE 4)			
Security lending income / (expense)	3,547	(1,368)	2,179
Unrealized gain on security lending	6,832	1,595	8,427
		227	
Total securities lending activities income	10,379	227	10,606
Security lending expenses			
Interest rebate / (expense)	1,320	26	1,346
Management fees	(413)	(18)	(431)
Total securities lending activities expense	907	8	915
Net income from securities lending activities	11,286	235	11,521
Total net investment income TOTAL ADDITIONS	3,352,302 5,283,539	41,297 41,387	3,393,599 5,324,926
TOTAL ADDITIONS	3,263,339	41,367	3,324,920
Deductions			
	2,360,079	46.820	2,406,899
Deductions  Retirement and disability benefits Survivor benefits	2,360,079 38,363	46,820 79	
Retirement and disability benefits Survivor benefits	38,363		38,442
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest	38,363 218,528	79 79	38,442 218,607
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest Administrative expenses	38,363 218,528 32,451	, 79	38,442 218,607 32,851
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest	38,363 218,528 32,451 725	79 79 400	38,442 218,607 32,851 725
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest Administrative expenses Transfers to other plans Other	38,363 218,528 32,451	79 79	2,406,899 38,442 218,607 32,851 725 4,066 <b>2,701,590</b>
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest Administrative expenses Transfers to other plans	38,363 218,528 32,451 725 4,064	79 79 400 - 2	38,442 218,607 32,851 725 4,066 <b>2,701,590</b>
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest Administrative expenses Transfers to other plans Other TOTAL DEDUCTIONS	38,363 218,528 32,451 725 4,064 <b>2,654,210</b> \$ <b>2,629,329</b>	79 79 400 - 2 <b>47,380</b>	38,442 218,607 32,851 725 4,066 <b>2,701,590</b>
Retirement and disability benefits Survivor benefits Refunds to withdrawing members, including interest Administrative expenses Transfers to other plans Other TOTAL DEDUCTIONS NET INCREASE (DECREASE)	38,363 218,528 32,451 725 4,064 <b>2,654,210</b> \$ <b>2,629,329</b>	79 79 400 - 2 <b>47,380</b>	38,442 218,607 32,851 725 4,066 <b>2,701,590</b>

In accordance with GASB 25, 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. The Combining Schedule of Retirement Net Position and Changes in Retirement Net Position are presented here to provide members with more detailed information about the two plan components.

## **Schedule of Additions by Source**

(Dollars in Thousands)

Year	mployee ntributions Made	Employer ntributions Made	Ir	Net nvestment Income (Loss)	_	urchased ervice and Other	Total
2004	\$ 413,462	\$ 413,458	\$	3,228,785	\$	113,944	\$ 4,169,649
2005	442,643	442,643		1,803,392		141,932	2,830,610
2006	612,121	612,121		2,230,939		125,751	3,580,932
2007	811,480	811,535		4,310,518		107,548	6,041,081
2008	904,984	905,680		(2,072,441)		95,226	(166,551)
2009	891,753	891,747		(4,673,490)		72,436	(2,817,554)
2010	844,847	858,431		3,028,216		73,973	4,805,467
2011	854,976	859,399		5,704,452		70,812	7,489,639
2012	926,966	927,628		338,728		89,132	2,282,454
2013	968,885	989,790		3,569,876		97,849	5,626,400

## **Schedule of Deductions by Type**

(Dollars in Thousands)

Year	Benefits		Administration Transfers and Refunds Other			Total		
2004	\$	1,396,481	\$	36,212	\$	35,745	\$	1,468,438
2005		1,576,734		44,164		33,426		1,654,324
2006		1,703,215		60,313		39,395		1,802,923
2007		1,824,865		77,910		47,703		1,950,478
2008		1,944,283		104,387		210,432		2,259,102
2009		2,072,813		120,689		38,834		2,232,336
2010		2,214,722		154,144		44,121		2,412,987
2011		2,348,551		180,719		38,496		2,567,766
2012		2,486,783		207,289		40,953		2,735,025
2013		2,604,717		218,607		41,928		2,865,252

## **Schedule of Professional Consultant Fees**

For Year Ended June 30, 2013 (Dollars in Thousands)

<b>Professional/Consultant</b>	Nature Of Service	Expenses
Sedgwick Claims Management Services	LTD Administrative Services	\$ 2,736
State Street Bank And Trust Company	Pension Payment Services And Custodial Bank Services	2,473
Comsys Information Technology Services	IT And Other Consulting Services	1,288
Guidesoft Inc.	IT And Other Consulting Services	1,181
Buck Consultants, LLC	Actuarial Services	969
Robert Charles Lesser and Co., LLC.	Investment Consulting Services	929
Foley And Lardner, LLP	Investment Legal Services	893
Meketa Investment Group	Investment Consulting Services	703
New England Pension Consultants	Investment Consulting Services	642
DLJ MB Advisors, Inc.	Investment Back Office Services	602
Cox Castle And Nicholson	Investment Legal Services	575
Arizona State Attorney General Office	Legal Services	209
Institutional Shareholder	Investment Consulting Services	113
Heinfeld Meech And Co PC	Audit Services	89
Foster Pepper PLLC	Investment Legal Services	40
CEM Benchmarking, Inc.	Plan Administration Consulting	40
Callan Associates Inc	Investment Consulting Services	32
CliftonLarsonAllen, LLP	Independent Auditors	30
Charles W Whetstine, P.C.	Legal Services	26
LexisNexis Risk Data Management	Research Services	24
Cortex Applied Research Inc.	Investment Consulting Services	22
Facilitec, Inc	Investment Legal Services	17
Other Consulting Fees (Less Than Fifteen Thousand Dollars)		114
TOTAL		\$ 13,747

## **Schedule of Administrative Expenses**

For Year Ended June 30, 2013 (Dollars in Thousands)

	Retirem and Hea					
	Benef		Long-Term			
	Supplement		Disability		2013	
PERSONNEL SERVICES						
Salaries	\$ 1	2,556	\$ -	\$	12,556	
Retirement Contributions		1,281	-		1,281	
Other Employee Related Expenses		3,154	-		3,154	
<b>Total Personnel Services</b>	10	6,991	-		16,991	
PROFESSIONAL SERVICES						
Actuary & Benefit Consulting		969	-		969	
Audit, Consulting & Legal Fees		1,872	2,736		4,608	
Programming Costs		2,478	-		2,478	
Other Outside Services		5,689	3		5,692	
Total Professional Services	1:	1,008	2,739		13,747	
COMMUNICATIONS						
Postage and Delivery		418	-		418	
External Printing		61	-		61	
Telephone		309	-		309	
Advertising	10		-		10	
Total Communications	798		-		798	
MISCELLANEOUS						
Office Rent		2,263	-		2,263	
Furniture & Equipment		380	-		380	
Software & Support		996	-		996	
Repair & Maintenance	96		-		96	
Travel	85		-		85	
Operating Supplies	68		-		68	
Insurance	196		-		196	
Dues & Subscriptions	1,343		-		1,343	
Education & Training	56		-		56	
Miscellaneous	10		_		10	
Total Miscellaneous		5,493	-		5,493	
TOTAL	\$ 34	4,290	\$ 2,739	\$	37,029	

#### **Schedule of Total Investment Expense by Manager**

Public Equity and Fixed Income For Year Ended June 30, 2013 (Dollars in Thousands)

	Ма	nagement		
		Fees <sup>1</sup>	Other Fees	Total
Aberdeen Asset Management	\$	2,321	\$ 300	\$ 2,621
ASRS Internal		=	217	217
AQR Capital Management		81	36	117
Ashmore Investment Management		(831)	2	(829)
AXA Rosenberg Investment Managers		=	6	6
Blackrock Custom US Debt Fund		15	-	15
Blackrock Dow Jones/UBS		28	-	28
Blackrock EAFE Country Fund U/A		1,271	=	1,271
Blackrock Index Fund A		25	=	25
Blackrock Intermediate Govt/Credit Bond Index Fund		4	-	4
Blackrock Local Bond Index Fund B		15	_	15
Blackrock MSCI EAFE Small Cap		184	-	184
Blackrock MSCI Emerging Markets Free B		753	-	753
Blackrock US High Yield Bond Index Fund B		29	_	29
Blackrock US Debt Index Fund B		25	_	25
Blackrock Russell 1000 Index Fund B		50	-	50
Blackrock Russell 2000 Index Fund B		12	-	12
Brandes Investment Partners International Equity		1,524	773	2,297
Bridgewater Associates Global Tactical Asset Allocation		13,748	-	13,748
Cargill, Inc.		3,165	-	3,165
Champlain Investment Partners		1,120	1	1,121
Columbia Management Investment Advisors, LLC		2,370	39	2,409
CRM Funds Mid Cap Value		705	-	705
Dimensional Fund Advisors Equity Fund		895	-	895
Dimensional Fund Advisors International Small Cap		796	41	837
Eaton Vance Investment Managers		4,092	-	4,092
Franklin Templeton Investments		1,787	233	2,020
Gresham Investment Management		2,987	330	3,317
Guggenheim Partners Management		1,945	-	1,945
Hansberger Global Investors, LC		1,070	301	1,371
Intech Large Capital		2,375	-	2,375
Jacobs Levy Equity Management		1,225	878	2,103
LSV Asset Management - Emerging Markets Equity Fund LP		2,000	-	2,000
LSV Asset Management - US Large Cap Value Account		2,045	-	2,045
Pacific Investment Management Company		2,563	403	2,966
Shenkman Capital Management		666	28	694
Timessquare Capital Management		4,465	4	4,469
Walter Scott & Partners		1,283	99	1,382
Wellington Management Co Mid Cap Opportunities		2,128	-	2,128
William Blair & Company		2,168	-	2,168
Windham Capital Management		2,062		2,062
Total	\$	63,166	\$ 3,691	\$ 66,857

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

## **Schedule of Total Investment Expense by Manager**

Private Equity For Year Ended June 30, 2013 (Dollars in Thousands)

		agement Fees	Other Fees <sup>1</sup>		Total
Accel-KKR Capital Partners III, LP	\$	687	\$ 33	\$	720
Apollo Investment Fund VII, LP	7	341	198	Ψ	539
Apollo Natural Resources Partners, LP		1,405	434		1,839
Arlington Capital Partners III, LP		679	275		954
Atlas Venture Fund VIII, LP		299	257		556
Audax Private Equity Fund IV, LP		-	159		159
Baird Capital Partners V Limited Partnership		699	228		927
Blackrock Private Opportunities Fund, LP		75	13		88
Blackstone Capital Partners VI, LP		772	183		955
Blackstone Energy Partners, LP		59	1,749		1,808
Bridgepoint Europe IV 'D', LP		540	53		593
Brookfield Special Situations Fund III (NR A), LP		573	436		1,009
Catalyst Fund Limited Partnership III		882	17		899
Catalyst Fund Limited Partnership IV		1,388	18		1,406
Centerbridge Capital Partners, LP		563	1,195		1,758
CMEA Ventures VII, LP		114	85		199
Crown European Buyout Opportunities II, Plc		159	408		567
CVC European Equity Partners V (C), LP		1,158	199		1,357
Edgewater Growth Capital Partners III, LP		316	305		621
EnCap Energy Capital Fund IX, LP		150	-		150
Energy Capital Partners II-A, LP		611	1,613		2,224
First Reserve Fund XII, LP		959	215		1,174
IDG Ventures SF, LP		239	21		260
JLL Partners Fund VI, LP		439	(183)		256
Khosla Ventures IV, LP		206	383		589
Kinderhook Capital Fund III, LP		875	1,957		2,832
Levine Leichtman Capital Partners Deep Value Fund		1,418	-		1,418
Levine Leichtman Capital Partners IV, LP		750	79		829
Linconshire Equity Fund IV-A, LP		291	2		293
Linden Capital Partners II, LP		179	241		420
Littlejohn Fund IV-A, LP		1,325	-		1,325
LLR Equity Partners III, LP		600	2,204		2,804
LLR Equity Partners IV, LP		-	44		44
Maranon Mezzanine Fund, LP		600	17		617
Montreux Equity Partners IV, LP		183	384		567
Nautic Partners VI, LP		574	19		593
New Atlantic Ventures Fund III, LP		234	9		243
New Mountain Partners III, LP		415	612		1,027

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

#### **ADDITIONAL SUPPLEMENTARY INFORMATION (CONTINUED)**

## **Schedule of Total Investment Expense by Manager**

Private Equity - Continued For Year Ended June 30, 2013 (Dollars in Thousands)

	Management		
	Fees	Other Fees <sup>1</sup>	Total
Oakhill Capital Partners III, LP	1,268	32	1,300
Oaktree European Principal Fund III, LP	593	-	593
Onex Partners III, LP	1,258	204	1,462
Partners Group Secondary 2008, LP	967	264	1,231
Partners Group Secondary 2011 (USD), LP, Inc	1,098	53	1,151
Paul Capital Partners IX, LP	517	-	517
Peninsula Technology Ventures, LP	160	(7)	153
Pine Brook Capital Partners, LP	887	1,808	2,695
Pine Brook Capital Partners II, LP	151	283	434
Platinum Equity Capital Partners II, LP	-	63	63
Quantum Energy Partners V, LP	1,360	(263)	1,097
Saybrook Corporate Opportunity Fund, LP	312	-	312
Seidler Equity Partners IV, LP	600	62	662
Silver Lake Partners III, LP	430	(59)	371
TCW/Crescent Mezzanine Partners V, LP	411	31	442
Tenex Capital Partners, LP	673	15	688
The Resolute Fund II, LP	267	80	347
The Veritas Capital Fund IV, LP	319	2,865	3,184
Thomas H Lee Equity Fund VI, LP	516	115	631
Warburg Pincus Private Equity X, LP	594	115	709
Waud Capital Partners QP III, LP	210	106	316
Wayzata Opportunities Fund II, LP	629	153	782
White Deer Energy, LP	940	1,869	2,809
White Deer Energy, LP II	123	-	123
Vista Equity Partners Fund IV, LP	1,093	-	1,093
Yucaipa American Alliance Fund II, LP	444	191	635
Total	\$ 36,577	\$ 21,842	\$ 58,419

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

#### **Schedule of Total Investment Expense by Manager**

Real Estate

For Year Ended June 30, 2013 (Dollars in Thousands)

	Ма	nagement Fees	Other Fees	Total <sup>1</sup>
AEW Core Property Trust (U.S.), Inc.	\$	1,016	\$ -	\$ 1,016
AEW Value Investors Fund II, LP	'	371	-	371
Alcion Real Estate Partners Tax-Exempt Parallel Fund II, LP		750	518	1,268
Almanac Realty Securities IV, LP		660	33	693
Almanac Realty Securities V, LP		474	16	490
ASRS Internal		_	6,473	6,473
Blackstone Real Estate Partners VI, LP		579	1,677	2,256
Blackstone Real Estate Partners VII, LP		284	234	518
Blackrock US Real Estate Securities Fund B		28	-	28
Carlyle Realty Partners V, LP		435	381	816
CB Richard Ellis Strategic Partners US Opportunity 5, LP		440	-	440
CB Richard Ellis Strategic Partners US Value 5, LP		370	245	615
CIM Fund III, LP		615	-	615
CIM Urban REIT, LLC		893	-	893
CIM VI (Urban REIT), LLC		32	-	32
Colony Investors VIII, LP		467	7	474
Dune Real Estate Fund II, LP		1,444	2,232	3,676
Dune Real Estate Fund, LP		383	57	440
Five Mile Capital II LOPO Co-Investment, LP		11	533	544
Five Mile Capital Partners II, LP		531	287	818
H/2 Special Opportunities II, LP		400	5,246	5,646
Harrison Street Real Estate Partners III, LP		825	_	825
Heitman Value Partners II, LP		263	-	263
Hunt Commercial Realty Partners III, LP		459	_	459
Invesco Asian Real Estate Partners II (USD), LP		157	50	207
Lone Star Fund VI (US), LP		36	1,529	1,565
Lone Star Real Estate Fund (US), LP		108	-	108
M&G Real Estate Debt Fund, LP		680	147	827
Oaktree Real Estate Opportunities Fund V, LP		741	-	741
Oaktree Real Estate Opportunities Fund VI, LP		398	464	862
PLA Residential III, LP		752	-	752
PLA Retail Fund I, LP		914	-	914
PRISA II		590	-	590
RREEF Global Opportunities Fund II, LLC		(158)	(43)	(201)
Tishman Speyer Real Estate Venture VI, LP		163	76	239
Tishman Speyer Real Estate Venture VII, LP		461	108	569
Waterton Residential Property Venture XI, LP		674	828	1,502
Westbrook Real Estate Fund VII, LP		519	32	551
Westbrook Real Estate Fund VIII, LP		706	=	706
Total	\$	18,471	\$ 21,130	\$ 39,601

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

#### **Schedule of Total Investment Expense by Manager**

Opportunistic For Year Ended June 30, 2013 (Dollars in Thousands)

	Ма	nagement Fees	Othe	er Fees <sup>1</sup>	Total
Avenue Europe Special Situations Fund II (US), LP	\$	3,707	\$	(344)	\$ 3,363
Blackrock Credit Investors II, LP		40		285	325
Blackrock Mortgage Investors, LP		690		4,504	5,194
Blackstone/GSO Capital Solutions Fund, LP		328		6,725	7,053
Cerberus ASRS Credit Opportunities Fund, LP		-		659	659
H/2 Core Real Estate Debt Fund, LP		1		163	164
Highbridge Principal Strategies - Mezzanine Partners II, LP		155		947	1,102
Oaktree Opportunities Fund VIII, LP		703		(310)	393
Oaktree Opportunities Fund VIIIb, LP		2,183		(243)	1,940
OCM STR Co-Invest 1, LP		505		(90)	415
TCW Capital Trust		2,890		307	3,197
White Oak Global Advisors Private Debt		88		-	88
Total	\$	11,290	\$	12,603	\$ 23,893

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

# ARIZONA STATE RETIREMENT SYSTEM

#### A Component Unit of the State of Arizona



"The National Exchange Club has a proud history of answering the call in response to America's greatest challenges. Founded in 1911, we are proud to say that we are the oldest American Service Club in existence. Exchange has been in Arizona since 1923 with the most recently chartered Tempe Club. I retired in February 2012 from the Department of Administration and joined the following month. In a year I have worked on six community projects, with the largest being the 9-11 Healing Fields in Tempe. I have served as the Southwest District representative for the Tempe Club and received Exchangite of the Year for the Tempe club." - **Craig Dokken** 

# INVESTMENT SECTION

## **III. Investment Section**

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#### U.S. Economy and Capital Markets FY 2012-13

By Thomas Connelly, Investment Committee Chair, and Gary R. Dokes, Chief Investment Officer

The economy continues to expand, albeit, at a slower than expected pace, as reflected in mixed economic indicators which prompted the Federal Reserve to debate "tapering" the current 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 increases in developed equity markets. GDP expanded by 1.7% for the latest quarter. The unemployment rate has declined from 8.2% as of June 30, 2012 to 7.6% as of June 30, 2013. The CPI Index has edged up 0.1% to 1.8% year-overyear. 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 dramatically during the fiscal year. The S&P 500 Index was up 20.6% with returns lagging mid-caps and small-caps. The S&P MidCap Index and the S&P SmallCap Index were each up 25.2% during the fiscal year. Value modestly outperformed growth across the cap spectrums with the exception of large cap value, which significantly outperformed growth. International equity markets lagged domestic markets. The MSCI EAFE Index increased 19.1% during the fiscal year. The MSCI ACWI ex U.S. Index rose 14.3% during the fiscal year. Europe (ex-United Kingdom) increased 20.9% in the developed markets while the emerging markets were hindered by China, Russia, and Brazil, causing emerging markets to

significantly underperform their developed market counterparts. The MSCI EM Index increased 3.2%.

The Barclays Aggregate Fixed Income Index significantly underperformed the domestic equity markets by declining 0.7% during the fiscal year. High Yield was the top performer within fixed income, increasing 9.5% while Financial Institutions was the top performing sector in the Barclays Aggregate Index as investors exhibited an increased appetite for risk, but preferred shorter durations. Short durations bonds outperformed long term issues. Lower-quality issues outperformed higher-quality issues in the investment credit space. Mortgages slid 1.1% and Treasuries decreased 1.6% during the fiscal year. Emerging market debt produced a positive return for the fiscal year of 1.3%, but experienced significant declines from the May 9, 2013 high to end of the fiscal year.

REITs exhibited modestly positive performance for the fiscal year; the FTSE NAREIT Index rose 14.3%. Private real estate fared better; the NCREIF Property Index was up 10.5% (on a quarterly lag) for the fiscal year.

Commodities were the worst performer of the asset classes with the Dow Jones-UBS Commodity Index falling 8.0% during the fiscal year. Metals were the major contributor to this decline while energy, agriculture, and livestock slightly mitigated it.

#### **Investment Goals 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.

> Rate of Return: 8.0% (over 20 years) Actual: 8.2% (over 20 years)

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

Benchmark: 12.6% (1 year) and 12.4% (3-

years)

Actual: 13.1% (1 year) and 12.6% (3years)

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 strategic asset class benchmarks.

Total Domestic and International Equity:

Benchmark: 19.2% (1-year) and 15.6% (3-

years)

Actual: 18.8% (1-year) and 15.5% (3-

years)

Domestic Equity:

Benchmark: 22.0% (1-year) and 18.9% (3-

years)

Actual: 22.2% (1-year) and 18.9% (3-

years)

International Equity:

Benchmark: 15.1% (1-year) and 9.1% (3-years) Actual: 14.0% (1-year) and 8.6% (3-years)

Public Markets Fixed Income:

Benchmark: -0.2% (1-year) and 3.9% (3-years) Actual: -0.3% (1-year) and 4.2% (3-years) Global Tactical Asset Allocation:

Benchmark: 12.8% (1-year) and 12.3% (3-

years)

Actual: 12.7% (1-year) and 14.0% (3-

years)

Inflation-Linked:

Benchmark: -8.0% (1-year) and -3.5% (3-

years)

Actual: -5.0% (1-year) and -1.2% (3-

years)

Private Equity:

Benchmark: 16.3% (1-year) and 13.5% (3-

years)

Actual: 12.6% (1-year) and 15.0% (3-

years)

Opportunistic Equity: \*

\*Net absolute rate of return expectations range from 10-14% per annum. 3-year not applicable.

Actual: 41.1% (1-year)

Opportunistic Debt: \*

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

Actual: 12.4% (1-year) and 11.1% (3-

years)

Real Estate:

Benchmark: 10.8% (1-year) and 15.1% (3-

vears)

Actual: 12.8% (1-year) and 13.9% (3-

years)

4. Ensure sufficient monies are available to meet pension benefits, health insurance, member refunds, administrative payments, and other cash flow requirements.

Achieved this goal.

#### **Asset Allocation Targets**

During fiscal year 2013, 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 EFA 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
Opportunistic Debt*	0%	(0 - 10%)	Investment Specific
Private Debt	3%		S&P/LSTA Leveraged Loan Index + 2.5%
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

#### **Investment Policies**

An integral part of the overall investment policy is the Strategic Asset Allocation Policy, 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 165 externally managed and 9 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.

#### **INVESTMENT RESULTS**

#### 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	13.1%	12.6%	5.9%	7.4%	9.8%
Interim SAA Policy Benchmark	12.6%	12.4%	5.4%	7.0%	9.6%
Domestic Equity	22.2%	18.9%	8.2%	8.5%	11.1%
S&P Custom Index	22.0%	18.9%	7.7%	7.8%	11.2%
Domestic Fixed Income	-0.3%	4.2%	5.9%	4.9%	8.6%
Custom Fixed Income Index	-0.2%	3.9%	5.4%	4.6%	n/a
International Equity	14.0%	8.6%	0.0%	7.8%	6.1%
MSCI Custom Index	15.1%	9.1%	0.0%	8.9%	5.7%
Commodities	-5.0%	n/a	n/a	n/a	0.3%
DJUBS Commodity Index	-8.0%	n/a	n/a	n/a	-1.7%
Global Tactical Asset Allocation	12.7%	14.0%	8.1%	n/a	7.3%
Custom Global Tactical Asset Allocation	12.8%	12.3%	5.3%	n/a	5.8%
Real Estate	12.8%	13.9%	n/a	n/a	2.5%
NFI-ODCE Index	10.8%	15.1%	n/a	n/a	4.9%
Private Equity	12.6%	15.0%	n/a	n/a	2.4%
Russell 2000	16.3%	13.5%	n/a	n/a	4.6%
Private Debt	n/a	n/a	n/a	n/a	13.5%
S&P Loan Syndications and Trading Association Leveraged Loan Index	n/a	n/a	n/a	n/a	3.6%
Opportunistic Debt	12.4%	11.1%	n/a	n/a	8.9%
Opportunistic Equity	41.1%	n/a	n/a	n/a	18.6%

## Historical Rates of Return¹ (Net of Fees)

(Retirement & HBS)

Fiscal Year	Return	Fiscal Year	Return	Fiscal Year	Return
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%
2005-06	9.8%	1997-98	21.3%	1989-90	9.5%

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

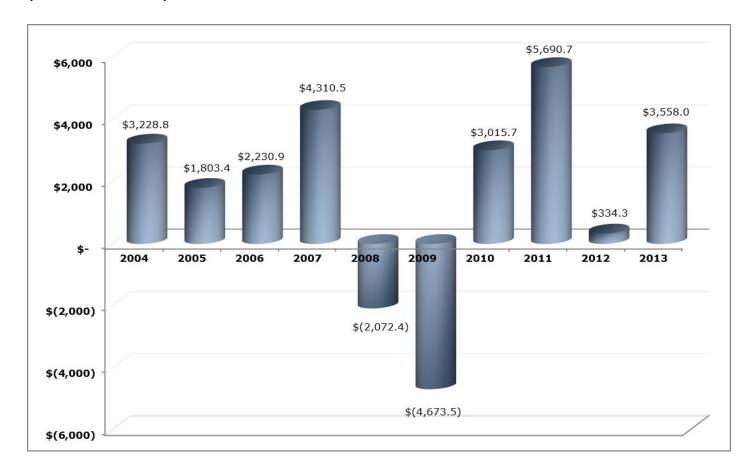
#### **Ten Year Review of Investment Income**

(Dollars in Thousands)

Fiscal Year	In	come	+	Ne	t Apprec/(Depr)	-	Expense	=	N	et Income
2003-2004	\$	447,623		\$	2,811,047	\$	29,885		\$	3,228,785
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

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

(Dollars in Millions)



#### **Summary of Investments**

(Dollars in Thousands)

	Investments					
	at Fair Value	Receivables	Payables		Total	% of Total
Temporary Investments	\$ 1,989,196	\$ 1,011,296	<b>1</b> \$ 1,272,282	<b>2</b> \$	1,728,210	5.41%
Securities Lending Collateral	15,460	-	15,460		-	0.00%
Equity Securities:						
Domestic Equity	12,239,720	-	-		12,239,720	45.58%
Non-U.S. Equity	6,486,452	-	-		6,486,452	17.18%
Fixed Income Securities:						
Corporate Obligations	2,458,838	-	-		2,458,838	8.07%
Government Obligations	2,915,292	-	-		2,915,292	11.39%
Real Estate	1,723,214	-	-		1,723,214	5.17%
Private Equity	1,705,094	-	-		1,705,094	4.83%
Opportunistic	1,262,193	-	-		1,262,193	2.37%
Total Investments	\$ 30,795,459	\$ 1,011,296	\$ 1,287,742	\$	30,519,013	100.00%

Total	\$	1,011,296	Total	\$ 1	,272,282		
Forward Contracts Receivables		901,832	Other Payables		48,785		
Securities Sold		40,885	Forward Contracts Payable		889,084		
Accrued Interest & Dividends	\$	68,579	Payable for Securities Purchased	\$	334,413		
RECEIVABLES INCLUDE: <sup>2</sup> PAYABLES INCLUDE:							

Note: A detailed listing of investments is available upon request.

Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

## **EQUITY PORTFOLIO PROFILE**

## **Equity Sub-Sector Allocation**

(Dollars in Thousands)

	% of Equity		
	Portfolio	I	Fair Value
US Large Cap Equity	48.58%	\$	9,098,073
US Mid Cap Equity	8.33		1,559,217
US Small Cap Equity	8.45		1,582,430
Total US Equity	65.36		12,239,720
Non US Equity	34.64		6,486,452
TOTAL EQUITY SECURITIES	100.00%	\$	18,726,172

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

	% of Domestic Equity Portfolio
SPDR S&P 500 EFT Trust	8.82%
Exxon Mobil, Corp.	1.59
Apple, Inc.	1.46
Microsoft, Corp.	1.14
Chevron, Corp.	1.07
Pfizer, Inc.	0.98
Johnson & Johnson	0.96
Vanguard Total Stock Market ET	0.93
ISHARES MSCI USA Value Factor	0.85
ISHARES MSCI USA Momentum Factor	0.84
Total	18.64%

Note: A detailed listing of investments is available upon request.

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#### **Distribution by Market Sector**

	ASRS Domestic	1
	Equity	S&P 500 Index
Consumer Discretionary	12.30%	12.50%
Consumer Staples	9.30	10.50
Energy	9.00	10.50
Financials	17.80	16.60
Healthcare	12.80	12.70
Industrials	12.50	10.00
Information Technology	16.30	17.80
Materials	4.00	3.30
Telecommunication Services	2.40	2.80
Utilities	3.60	3.30
Total	100.00%	100.00%

#### **Ten Largest International Equity Holdings**

	International Equity Portfolio
Novartis AG Reg	0.58%
Roche Holding AG Genusschein	0.57
Nestle SA Reg	0.56
Standard Chartered, PLC	0.36
Vodafone Group, PLC	0.36
Shin-Etsu Chemical Co., LTD	0.34
HSBC Holdings, PLC	0.31
Eni SPA	0.30
Toyota Motor Corp.	0.30
Canon, Inc.	0.29
Total	3.97%

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

(Dollars in Thousands)

<b>Summary of Broker Commissions</b>	Co	mmission
Domestic Equity	\$	4,558
International Equity	\$	1,010

Note: A detailed listing of investments is available upon request

.Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

## FIXED INCOME PORTFOLIO PROFILE

#### **Distribution by Sector**

	Percent
Asset Backed Securities	4.10%
Commercial Mortgage Backed	2.91
Corporate Bonds	37.88
Non-Government Backed CMO's	0.86
Government Related	6.13
Government Agencies CMO's	0.35
Government Bonds (Treasury)	31.98
Government Mortgage Backed	15.79
Total	100.00%

#### **Distribution by Maturity**

	Percent
0 - 2 years	9.48%
2 to 3 years	7.84
3 to 4 years	11.38
4 to 5 years	19.16
5 to 6 years	12.85
6 to 8 years	19.03
> 8 years	20.26
Total	100.00%

## **Distribution by Coupon**

	Percent
0.00% - 6.5%	74.88%
6.51% - 7.50%	8.67
7.51% - 9.0%	10.62
> 9.00%	5.83
Total	100.00%

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

(Dollars in Thousands)

	Coupon	Maturity	Par Value	Fair Value	Percent
US TREASURY NOTE	4.63%	2/15/2040	\$ 45,700	\$ 55,651	1.04%
US TREASURY NOTE	3.13%	4/30/2017	48,000	51,824	0.97
US TREASURY NOTE	2.00%	2/15/2023	41,400	39,821	0.74
US TREASURY NOTE	4.13%	5/15/2015	37,000	39,614	0.74
US TREASURY NOTE	1.00%	11/30/2019	39,100	37,248	0.69
US TREASURY NOTE	4.75%	2/15/2041	28,200	35,029	0.65
FEDERAL HOME LOAN BANK	5.00%	11/17/2017	30,000	34,597	0.64
US TREASURY NOTE	2.00%	1/31/2016	32,500	33,727	0.63
FANNIE MAE	5.00%	3/5/2016	30,000	33,416	0.62
US TREASURY NOTE	2.13%	2/29/2016	30,600	31,866	0.59
Total		-	\$ 362,500	\$ 392,793	7.31%

Note: A detailed listing of investments is available upon request.

Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

## PRIVATE INVESTMENT PORTFOLIO PROFILE

## **Ten Largest Real Estate Managers**

(Dollars in Thousands)

	Fa	ir Value	% of Real Estate Portfolio
AEW Core Property Trust (U.S.), Inc.	\$	207,145	12.35%
H/2 Special Opportunities II, LP		87,232	5.20
CIM Urban REIT, LLC		83,464	4.97
PLA Retail Fund I, LP		68,453	4.08
CIM Fund III, LP		65,957	3.93
PRISA II		60,302	3.59
PLA Residential III, LP		56,210	3.35
Almanac Realty Securities IV, LP		55,542	3.31
Blackstone Real Estate Partners VI, LP		53,364	3.18
Oaktree Real Estate Opportunities Fund V, LP		53,074	3.16
Total	\$	790,743	47.12%

Note: A complete list of real estate investments appears on page 88

## PRIVATE INVESTMENT PORTFOLIO PROFILE

## **Ten Largest Private Equity Managers**

(Dollars in Thousands)

	Fair Value	% of Private Equity Portfolio
Levine Leichtman Capital Partners IV, LP	\$ 87,467	5.12%
First Reserve Fund XII, LP	65,124	3.82
Oakhill Capital Partners III, LP	63,857	7 3.75
Onex Partners III, LP	59,186	3.47
Yucaipa American Alliance Fund II, LP	54,741	3.21
Partners Group Secondary 2008, LP	54,595	3.20
The Veritas Capital Fund IV, LP	51,330	3.01
Centerbridge Capital Partners, LP	49,479	2.90
Warburg Pincus Private Equity X, LP	47,853	3 2.81
White Deer Energy, LP	45,976	5 2.70
Total	\$ 579,608	33.99%

## **Opportunistic Managers**

(Dollars in Thousands)

	Fair Valu	% of Opportunistic le Portfolio
Cerberus ASRS Credit Opportunities Fund, LP	\$ 180,	932 14.33%
Blackstone/GSO Capital Solutions Fund, LP	178,	638 14.15
Avenue Europe Special Situations Fund II (US), LP	174,	792 13.85
TCW Capital Trust	151,	736 12.02
Oaktree Opportunities Fund VIIIb, LP	146,	680 11.62
OCM STR Co-Invest 1, LP	108,	363 8.59
Blackrock Mortgage Investors, LP	62,	684 4.97
RFM Cactus Holding Company, LLC	55,	476 4.40
Oaktree Opportunities Fund VIII, LP	47,	710 3.78
Total	\$ 1,107,	011 87.71%

Note: A complete list of private equity and opportunistic investments appears on pages 89, 90 and 91, respectively.

## **Domestic Equity Trades**

Broker Name		lar Amount of Trades	Number of Shares	Con	verage nmission er Share	Dollar Amount of Commission
Barclays Capital Inc./LE	\$	1,123,231	29,148	\$	0.0100	\$ 291
Barclays Capital LE	Ψ	19,014	491	Ψ	0.0407	20
BNP Paribas Brokerage Securities, Inc.		142,844	4,233		0.0104	44
BNY Convergex LJR		93,267	1,651		0.0224	37
BNY ESI & Co., Inc.		13,471	323		0.0372	12
BTIG, LLC		42,033	1,530		0.0477	73
Cantor Fitzgerald & Co.		17,079	686		0.0335	23
Capital Institutional Svcs Inc. Equities		189,889	4,562		0.0208	95
Citigroup Global Markets, Inc.		672,306	16,347		0.0111	181
Convergex Execution Solutions, LLC		35,843	1,150		0.0261	30
Cowen & Company, LLC		12,726	582		0.0378	22
Credit Suisse Securities (USA) LLC		1,028,894	24,430		0.0131	319
Dahlman Rose & Company, LLC		5,413	116		0.0431	5
Deutsche Bank Securities, Inc.		743,813	16,422		0.0167	274
Fidelity Capital Markets		113,832	3,209		0.0355	114
Goldman Sachs & Co.		40,848	1,315		0.0395	52
Goldman Sachs International		25,538	777		0.0103	8
Guzman & Co.		40,572	870		0.0230	20
Instinet, LLC		1,828,962	52,545		0.0113	593
Investment Technology Group, Inc.		1,590,940	42,319		0.0077	327
ISI Group, Inc.		16,412	553		0.0362	20
J.P. Morgan Clearing Corp.		105,312	1,980		0.0101	20
J.P. Morgan Securities, Inc.		53,192	1,673		0.0311	52
Jefferies & Company, Inc.		320,875	8,093		0.0215	174
Jones Trading Institutional Services, LLC		11,661	282		0.0319	9
Keybanc Capital Markets, Inc.		26,553	562		0.0445	25
Knight Equity Markets L.P.		67,404	1,755		0.0444	78
Lazard Capital Markets, LLC		27,824	758		0.0356	27
Leerink Swann and Company		11,653	252		0.0437	11
Liquidnet, Inc.		105,201	3,505		0.0188	66
Merrill Lynch Pierce Fenner & Smith, Inc.		405,754	10,065		0.0110	111
Merrill Lynch Professional Clearing Corp.		11,758	315		0.0444	14

## **Domestic Equity Trades – continued**

(Dollars in Thousands)

Broker Name	llar Amount of Trades	Number of Shares	Com	erage mission Share	 Amount nmission
Morgan Stanley & Co., Inc.	\$ 278,943	6,395	\$	0.0147	\$ 94
National Financial Services Corp.	1,618,847	1,618,079		0.0000	4
Nomura Securities International, Inc.	656,848	14,273		0.0100	143
Oppenheimer & Co., Inc.	28,686	1,159		0.0457	53
Piper Jaffray	12,675	380		0.0447	17
Pulse Trading, LLC	12,551	448		0.0179	8
Raymond James And Associates Inc.	41,084	950		0.0421	40
RBC Capital Markets	69,017	1,764		0.0317	56
Robert W. Baird Co. Inc.	41,546	1,132		0.0442	50
Rosenblatt Securities, LLC	249,008	5,055		0.0222	112
Sanford C Bernstein Co., LLC	253,383	6,025		0.0204	123
State Street Global Markets, LLC	179,547	4,265		0.0106	45
Sterne, Agee & Leach, Inc.	14,022	360		0.0472	17
Stifel Nicolaus & Co., Inc.	64,874	1,786		0.0420	75
Sungard Brokerage & Securities Svcs, LLC	13,631	372		0.0081	3
Suntrust Capital Markets, Inc.	10,697	254		0.0433	11
UBS Securities, LLC	105,827	3,012		0.0206	62
Wallachbeth Capital, LLC	875,493	14,107		0.0100	141
Weeden & Co.	206,596	4,047		0.0255	103
Wells Fargo Securities, LLC	23,174	888		0.0372	33
William Blair & Co., LLC	25,026	631		0.0444	28
Various Other Brokers	223,754	55,631		0.0035	193
Total	\$ 13,949,343	1,973,512	\$	0.0023	\$ 4,558

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

## **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	\$ 38,030	1,741	\$ 0.0247	\$ 43
BNP Paribus Brokerage Securities, Inc.	19,441	982	0.0295	29
Citigroup Global Markets, Inc.	24,845	22,859	0.0005	12
Citigroup Global Markets Limited	19,178	3,755	0.0069	26
Credit Agricole Indosuez Cheuvreux	17,772	801	0.0337	27
Credit Lyonnais Securities (USA), Inc.	12,030	3,735	0.0070	26
Credit Suisse Securities (Europe) Ltd	25,803	1,899	0.0179	34
Credit Suisse Securities (USA) LLC	31,395	12,501	0.0037	46
Deutsche Bank Securities, Inc.	23,154	1,930	0.0140	27
Exane S.A.	11,902	294	0.0578	17
Goldman Sachs & Co.	343,658	83,498	0.0021	176
Goodboy Stockbrokers	14,826	1,547	0.0142	22
Instinet U.K. Ltd	14,845	1,933	0.0057	11
Investment Technology Group, LTD	31,979	3,364	0.0107	36
JP Morgan Securities, PLC	18,041	2,513	0.0099	25
Macquarie Bank Limited	11,068	2,371	0.0089	21
Merrill Lynch International	38,616	7,407	0.0076	56
Merrill Lynch Pierce Fenner Smith, Inc. NY	17,438	1,478	0.0129	19
Morgan Stanley Co., Inc.	73,108	19,828	0.0034	68
Sanford C. Bernstein, Ltd	11,083	824	0.0206	17
UBS AG	12,582	1,379	0.0131	18
UBS Securities Asia, Ltd	19,155	13,464	0.0023	31
Various Other Brokers	198,394	32,767	0.0068	223
Total	\$1,028,343	222,870	\$ 0.0045	\$ 1,010

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

## **SCHEDULE OF INVESTMENT FEES**

#### **Public Equity and Fixed Income**

**Excluding Securities Lending** (Dollars in Thousands)

	Assets Managed at Fair Value at June 30, 2013	Management <sup>1</sup> & Other Fees
Aberdeen Asset Management	\$ 438,692	\$ 2,621
ASRS Internal	9,765,147	217
AQR Capital Management	140,027	117
Ashmore Investment Management	537,422	(829)
AXA Rosenberg Investment Managers	-	6
Blackrock Custom US Debt Fund	-	15
Blackrock Dow Jones/UBS	8,244	28
Blackrock EAFE Country Fund U/A	1,866,206	1,271
Blackrock Index Fund A	-	25
Blackrock Intermediate Govt/Credit Bond Index Fund	23,184	4
Blackrock Local Bond Index Fund B	9,883	15
Blackrock MSCI EAFE Small Cap	284,902	184
Blackrock MSCI Emerging Markets Free B	626,248	753
Blackrock US High Yield Bond Index Fund B	16,375	29
Blackrock US Debt Index Fund B	29,216	25
Blackrock Russell 1000 Index Fund B	94,624	50
Blackrock Russell 2000 Index Fund B	19,060	12
Brandes Investment Partners International Equity	428,805	2,297
Bridgewater Associates Global Tactical Asset Allocation	2,824,856	13,748
Cargill, Inc.	121,788	3,165
Champlain Investment Partners	140,868	1,121
Clear Channel Private Stock	997	-
Columbia Management Investment Advisors, LLC	667,914	2,409

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

## **Public Equity and Fixed Income – continued**

**Excluding Securities Lending** (Dollars in Thousands)

	Assets Managed at Fair Value at June 30, 2013	Management & Other Fees
Cramer Rosenthal McGynn Mid Cap Value	\$ 131,318	\$ 705
Dimensional Fund Advisors Equity Fund	438,502	895
Dimensional Fund Advisors International Small Cap	171,582	837
Eaton Vance Investment Managers	443,172	4,092
Forum Securities, Ltd.	6	-
Franklin Templeton Investments	334,588	2,020
Gresham Investment Management	823,917	3,317
Guggenheim Partners Management	308,275	1,945
Hansberger Global Investors, LC	295,848	1,371
Intech Large Capital	676,608	2,375
Jacobs Levy Equity Management	157	2,103
JP Morgan High Yield	319,883	-
LSV Asset Management - Emerging Markets Equity Fund LP	264,592	2,000
LSV Asset Management - US Large Cap Value Account	685,991	2,045
Pacific Investment Management Company	961,546	2,966
QS Investors	4	-
Shenkman Capital Management	156,238	694
Timessquare Capital Management	495,717	4,469
Walter Scott & Partners	211,794	1,382
Wellington Management Co Mid Cap Opportunities	402,176	2,128
William Blair & Company	401,478	2,168
Windham Capital Management	521,648	2,062
Total	\$ 26,089,498	\$ 66,857

#### **Real Estate**

	Net Assets Managed at Fair Value at June 30, 2013	Management <sup>1</sup> & Other Fees
AEW Core Property Trust (U.S.), Inc.	\$ 207,145	\$ 1,016
AEW Value Investors Fund II, LP	32,388	371
Alcion Real Estate Partners Tax-Exempt Parallel Fund II, LP	29,720	1,268
Almanac Realty Securities IV, LP	55,542	693
Almanac Realty Securities V, LP	48,021	490
ASRS Internal	44,934	6,473
Blackrock US Real Estate Securities Fund B	19,183	28
Blackstone Real Estate Partners VI, LP	53,364	2,256
Blackstone Real Estate Partners VII, LP	19,519	518
Carlyle Realty Partners V, LP	26,212	816
CB Richard Ellis Strategic Partners US Opportunity 5, LP	42,932	440
CB Richard Ellis Strategic Partners US Value 5, LP	17,313	
CIM Fund III, LP	65,957	
CIM Fund VIII, LP	13,110	-
CIM Urban REIT, LLC	83,464	893
CIM VI (Urban REIT), LLC	10,520	32
Colony Investors VIII, LP	15,644	
Dune Real Estate Fund II, LP	46,640	3,676
Dune Real Estate Fund, LP	39,770	440
FC Cactus Residential Development Fund, LLC	34,788	
Five Mile Capital II LOPO Co-Investment, LP	24,445	
	•	818
Five Mile Capital Partners II, LP	39,426	
H/2 Special Opportunities II, LP	87,231	5,646
Harrison Street Real Estate Partners III, LP	42,779	
Heitman Value Partners II, LP	35,874	
Hunt Commercial Realty Partners III, LP	25,576	
Invesco Asian Real Estate Partners II (USD), LP	12,932	
Lone Star Fund VI (US), LP	41,392	
Lone Star Real Estate Fund (US), LP	9,772	
M&G Real Estate Debt Fund, LP	33,793	
Oaktree Real Estate Opportunities Fund V, LP	53,074	
Oaktree Real Estate Opportunities Fund VI, LP	34,508	862
PLA Residential III, LP	56,210	752
PLA Retail Fund I, LP	68,453	914
PRISA II	60,302	590
RREEF Global Opportunities Fund II, LLC	23,706	(201)
Tishman Speyer Real Estate Venture VI, LP	15,330	239
Tishman Speyer Real Estate Venture VII, LP	29,770	569
US Cactus Industrial/Logistics Fund, LP	199	-
VTRAZ Holdings, LLC	1,000	-
Waterton Residential Property Venture XI, LP	42,782	1,502
Westbrook Real Estate Fund VII, LP	33,664	551
Westbrook Real Estate Fund VIII, LP	44,830	706
Total	\$ 1,723,214	\$ 39,601

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

## **Private Equity**

	Net Assets <sup>1</sup> Managed at Fair Value at June 30, 2013	Management & Other Fees
Accel-KKR Capital Partners III, LP	\$ 25,413	\$ 720
Apollo Investment Fund VII, LP	35,977	539
Apollo Natural Resources Partners, LP	24,351	1,839
Arlington Capital Partners III, LP	15,865	954
Atlas Venture Fund VIII, LP	13,449	556
Audax Private Equity Fund IV, LP	8,037	159
Baird Capital Partners V, LP	36,658	927
Blackrock Private Opportunities Fund, LP	6,989	88
Blackstone Capital Partners VI, LP	21,864	955
Blacstone Energy Partners, LP	20,403	1,808
Bridgepoint Europe IV 'D', LP	31,629	593
Brookfield Special Situations Fund III (NR A), LP	16,597	1,009
Catalyst Fund Limited Partnership III	31,040	899
Catalyst Fund Limited Partnership IV	23,331	1,406
Centerbridge Capital Partners, LP	49,479	1,758
CMEA Ventures VII, LP	4,767	199
Crown European Buyout Opportunities II, Plc	13,310	567
CVC European Equity Partners V (C), LP	41,478	1,357
Edgewater Growth Capital Partners III, LP	24,742	621
EnCap Energy Capital Fund IX, LP	2,397	150
Energy Capital Partners II-A, LP	44,638	2,224
First Reserve Fund XII, LP	65,124	1,174
IDG Ventures SF, LP	8,592	260
JLL Partners Fund VI, LP	14,832	256
Khosla Ventures IV, LP	8,997	589
Kinderhook Capital Fund III, LP	23,483	2,832
Levine Leichtman Capital Partners Private Capital Solutions II, LP	16,831	1,418
Levine Leichtman Capital Partners IV, LP	87,467	829
Levine Leichtman Capital Partners V, LP	476	-
Linconshire Equity Fund IV-A, LP	13,094	293
Linden Capital Partners II, LP	12,171	420
Littlejohn Fund IV-A, LP	18,985	1,325
LLR Equity Partners III, LP	24,590	2,804
LLR Equity Partners IV, LP	(44)	44
Maranon Mezzanine Fund, LP	29,507	617
Montreux Equity Partners IV, LP	8,580	567
Nautic Partners VI, LP	35,288	593
New Atlantic Ventures Fund III, LP	7,966	243
New Mountain Partners III, LP	35,092	1,027
Oakhill Capital Partners III, LP	63,857	1,300
Oaktree European Principal Fund III, LP	18,624	593
Onex Partners III, LP	59,186	1,462

<sup>&</sup>lt;sup>1</sup> Negative fair value amounts due to fees charged from commitment date of investment prior to initial funding of investment.

## **Private Equity – continued**

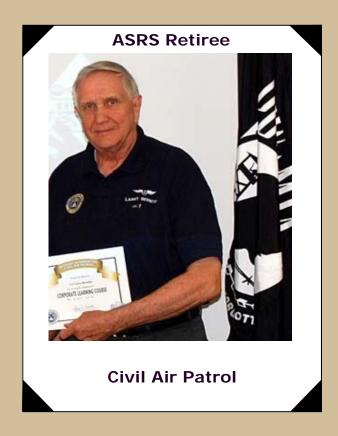
	M: Fa		Management & Other Fees
Partners Group Secondary 2008, LP	\$	54,595	\$ 1,231
Partners Group Secondary 2011 (USD), LP INC		11,988	1,151
Paul Capital Partners IX, LP		22,405	517
Peninsula Technology Ventures, LP		8,684	153
Pine Brook Capital Partners, LP		35,717	2,695
Pine Brook Capital Partners II, LP		4,226	434
Platinum Equity Capital Partners II, LP		28,686	63
Quantum Energy Partners V, LP		24,732	1,097
Saybrook Corporate Opportunity Fund, LP		13,231	312
Seidler Equity Partners IV, LP		10,884	662
Silver Lake Partners III, LP		24,459	371
TCW/Crescent Mezzanine Partners V, LP		42,145	442
Tenex Capital Partners, LP		16,647	688
The Resolute Fund II, LP		33,737	347
The Veritas Capital Fund IV, LP		51,330	3,184
Thomas H Lee Equity Fund VI, LP		44,728	631
Vista Equity Partners Fund IV, LP		23,500	1,093
Warburg Pincus Private Equity X, LP		47,853	709
Waud Capital Partners QP III, LP		20,086	316
Wayzata Opportunities Fund II, LP		39,384	782
White Deer Energy, LP		45,976	2,809
White Deer Energy, LP II		248	123
Yucaipa American Alliance Fund II, LP		54,741	635
Total	\$	1,705,094	\$ 58,419

## **Opportunistic**

	Net Assets Managed at Fair Value at June 30, 2013	Management & Other Fees
Avenue Europe Special Situations Fund II (US), LP	\$ 174,792	\$ 3,363
Blackrock Credit Investors II, LP	6,478	325
Blackrock Mortgage Investors, LP	62,684	5,194
Blackstone CQP Co-Invest, LP	21,991	-
Blackstone/GSO Capital Solutions Fund, LP	178,638	7,053
Cerberus ASRS Credit Opportunities Fund, LP	180,932	659
H/2 Core Real Estate Debt Fund, LP	26,691	164
Highbridge Principal Strategies - Mezzanine Partners II, LP	47,490	1,102
Oaktree Opportunities Fund VIII, LP	47,710	393
Oaktree Opportunities Fund VIIIb, LP	146,680	1,940
OCM STR Co-Invest 1, LP	108,363	415
RFM Cactus Holding Company, LLC	55,476	-
TCW Capital Trust	151,736	3,197
TPG Specialty Lending, Inc.	25,984	-
White Oak Global Advisors Private Debt	26,548	88
Total	\$ 1,262,193	\$ 23,893

# ARIZONA STATE RETIREMENT SYSTEM

#### A Component Unit of the State of Arizona



"I am member of the Civil Air Patrol (CAP) here in Arizona. CAP is a nationwide all-volunteer organization that provides search and rescue support for missing persons and lost/overdue aircraft; support for local government agencies by providing aerial photography of local infrastructure - especially after natural disasters; and aerospace education for young (high school age) CAP cadets. CAP has detachments - called Wings - in all 50 states. I am certified by CAP as a mission pilot to fly CAP aircraft in support of aerial searches for missing persons, lost aircraft and Homeland Security missions, as well as flying missions in search of people in distress in the Arizona desert. I fly orientation flights for CAP cadets that provide young members with their first flight experience. I also serve as the aircrew training coordinator. In addition I have served as a unit commander for one of the 12 flying units in Arizona. I have volunteered my time and flying experience for the Civil Air Patrol since 2004." - Larry Bernosky

# **ACTUARIAL SECTION**

## **IV. Actuarial Section**

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#### **ACTUARIAL CERTIFICATION - PLAN AND HBS**

Arizona State Retirement Plan Actuarial Valuation - June 30, 2012

# Actuarial Certification ARIZONA STATE RETIREMENT PLAN Actuarial Certification Statement

This is to certify that Buck Consultants has prepared an actuarial valuation of the Arizona State Retirement Plan as of June 30, 2012. 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 532,925 members – 203,994 active members, 210,060 inactive members, 114,431 retired members and beneficiaries, and 4,440 members on long term disability. In addition, there are 229 System retirees receiving only ad hoc benefits, 536 System retirees receiving only health insurance benefits, and 125 System retirees receiving both ad hoc benefits and health insurance benefits from the Plan.

The actuarial calculations establish a total benefit cost of 22.60% of the annual compensation of members. The total normal cost rate is 13.53% of compensation and the required amortization payment determined in accordance with Section 38-737 is 9.02% of compensation.

#### Actuarial Valuation of the Plan as of June 30, 2012

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, 2012, valuation report 11.30% for each member and each employer is applicable for the fiscal year beginning July 1, 2013.



#### Arizona State Retirement Plan Actuarial Valuation - June 30, 2012

#### **Funding Progress**

The 2011 valuation determined the rate for fiscal 2013 as 10.90%. The 2012 valuation calculates a rate of 11.30% to become effective July 1, 2013. 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.

Section 38-737 of the Arizona Revised Statutes specifies that the UAAL is to be amortized over a rolling 30-year period.

#### **Benefit Provisions**

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

- Base partial lump-sum payments on the single-life annuity form of payment.
- Eliminate the Level Income Alternative option for new retirements after July 1, 2013.
- Reduce the credited service requirement to purchase Other Public Service, Leave of Absence time, or Military Service to five years.
- For new retirees and disabilities after August 1, 2012, eliminate health supplements for retirees and disabled members who are covered under an active employee plan, either as an insured or as a dependent, except that if the member is a dependent and the ASRS employer is not subsidizing the premium that the retiree or disabled member must pay, the member is entitled to a single coverage subsidy.
- Cap total income at 100% of member's pre-disability pay for new disabilities after August 1, 2012. Also require objective medical evidence to support claims.
- Revise the split of contributions between members and employers to be a 50%/50% split, and provide for the return to members of the contribution amounts in excess of 50% that members had previously contributed.
- Require ASRS to charge employers for their share of the unfunded actuarial liabilities in the Plan and LTD programs if the employers cease to participate because of privatization, bankruptcy, or a change from public to private status. This requirement is effective for cessations that occur on or after January 2, 2013.
- Allow members who first become employees of an ASRS employer on or after age 65 and before July 1, 2015, to elect irrevocably not to participate in ASRS.
- Require married members to select their spouses as their beneficiaries and to select an option with at least 50% continuation to their spouses, unless spouses waive these requirements in writing. This provision applies to retirements, beneficiary designations, or beneficiary changes that occur on or after July 1, 2013.

Section 11 gives details of benefit provisions.



#### ACTUARIAL CERTIFICATION - PLAN AND HBS (CONTINUED)

#### Arizona State Retirement Plan Actuarial Valuation - June 30, 2012

#### Assumptions and Methods

We performed an experience study for the five-year period ended June 30, 2007, and recommended assumption changes based on the findings. On April 18, 2008, the Board adopted revised actuarial assumptions to be effective June 30, 2008. On November 23, 2009, the Board adopted further revised actuarial assumptions to be effective June 30, 2009. On November 18, 2011, the Board adopted an optional form load to liabilities and a new salary scale, where the wage inflation rate is decreased by 0.5%, to be effective June 30, 2011.

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.

#### Data

ASRS staff supplied census data for retired, active, and inactive members as of June 30, 2012. 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.



Actuarial Valuation - June 30, 2012 Arizona State Retirement Plan

The actuarial cost factors as of June 30, 2012, for the total Plan are as follows:

A. Liab 1. / 1. / 2. 1 4. 1 7. 1 B. Othe C. Rese C. Rese D. Tota	Liabilities due to member's benefits  1. Active members  2. Retirement benefits  b. Health insurance premium supplement c. Disability deferred retirement benefits d. Pre-retirement death benefits e. Withdrawal benefits f. Total active members 2. Inactive members 3. Retired members and beneficiaries 4. Disabled members (deferred retirement) 5. Benefit increases for other-than-plan members 6. Post-1981 System members 7. Total present value of benefits	8	\$ 13,037,065,260 0 421,328,595	S			
1. 6. 6. 6. 7. 7. Res Actuaria	Active members  Retirement benefits  Health insurance premium supplement  Disability deferred retirement benefits  Pre-retirement death benefits  Withdrawal benefits  Total active members  Inactive members  Retired members and beneficiaries  Disabled members (deferred retirement)  Benefit increases for other-than-plan members  Post-1981 System members  Total present value of benefits	so so	13,037,065,260	S			
a. b. c.	Retirement benefits  Health insurance premium supplement Disability deferred retirement benefits Pre-retirement death benefits Withdrawal benefits Withdrawal benefits Total active members Inactive members Retired members and beneficiaries Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits	8	13,037,065,260 0 421,328,595	8			
6. C. Res. Oth P. Tot P. Actuaria	Health insurance premium supplement Disability deferred retirement benefits Pre-retirement death benefits Withdrawal benefits Withdrawal benefits Total active members Inactive members Retired members and beneficiaries Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits	€9	0 421 328 595	)	0	8	13,037,065,260
c. c. f.	Disability deferred retirement benefits Pre-retirement death benefits Withdrawal benefits Total active members Inactive members and beneficiaries Disabled members and beneficiaries Post-1981 System members Total present value of benefits	€	421 328 595		776,917,054		776,917,054
d. 6. 6. 7. 7. Res. Ott Portuaria	Pre-retirement death benefits Withdrawal benefits Total active members Inactive members and beneficiaries Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits	<b>↔</b>	**********		0		421,328,595
e. 2. 2. 3. 3. 3. 4. 4. 4. 6. 6. 6. 6. C. Res Actuaria	Withdrawal benefits  Total active members  Inactive members  Retired members and beneficiaries  Disabled members (deferred retirement)  Benefit increases for other-than-plan members  Post-1981 System members  Total present value of benefits	€	400,585,401		0		400,585,401
f. 2. 2. 3. 3. 3. 4. 4. 4. 4. 7. 7. 6. 6. C. Res Actuaria	Total active members Inactive members Retired members and beneficiaries Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits	\$	1,158,632,548		0		1,158,632,548
2. 3. 4. 4. 7. 7. 8. Oth D. Tot Actuaria	Inactive members Retired members and beneficiaries Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits		15,017,611,804	S	776,917,054	89	15,794,528,858
3. 4. 7. 6. 6. Reg C. Reg D. Tot Actuaria	Retired members and beneficiaries Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits		1,733,217,583		50,452,281		1,783,669,864
4. 5. 6. 6. 6. C. Ree C. Ree D. Tot Actuaria	Disabled members (deferred retirement) Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits		20,556,558,195		633,421,781		21,189,979,976
5. 6. 7. 7. B. Ott C. Rec D. Tot	Benefit increases for other-than-plan members Post-1981 System members Total present value of benefits		734,513,283		35,770,942		770,284,225
B. C. D.	Post-1981 System members Total present value of benefits		1,872,998		5,520,393		7,393,391
B. C. D.	Total present value of benefits		406,514,877		0		406,514,877
B. C. D.		8	38,450,288,740	8	1,502,082,451	8	39,952,371,191
C. D. Actu	Other miscellaneous liabilities and reserves		0		0		0
D. Actu	Reserve for future PBIs		0		0		0
	Total actuarial accrued liability	S	38,450,288,740	S	1,502,082,451	8	39,952,371,191
	Actuarial value of assets <sup>1</sup>		28,948,010,913		1,281,566,359		30,229,577,272
III. Unfundec	Unfunded actuarial accrued liability (Item I. – Item II.)		9,502,277,827		220,516,092		9,722,793,919
IV. Amortiza	Amortization of unfunded actuarial accrued liability (per Section 38-737)		781,543,347		18,137,008		799,680,354
V. Normal c	Normal cost for the year		1,164,576,898		35,546,148		1,200,123,046
VI. Total con	Total contribution for the year (Item IV. + Item V.)	S	1,946,120,245	8	53,683,156	\$	1,999,803,400
VII. Total cov	VII. Total covered payroll (projected to 2012/2013 plan year)	S	8,868,678,184	S	8,868,678,184	8	8,868,678,184
VIII. Total con	VIII. Total contribution for fiscal year 2014 as a percentage of covered payroll						
A. Men	Member portion		11.30%		0.00%		11.30%
B. Emp	Employer portion		10.70%		%09.0		11.30%
C. Total	1		22.00%		%09.0		22.60%
IX. Present va	Present value of future covered payroll	S	65,573,793,372	S	0	S	65,573,793,372
X. Present va	Present value of future benefits <sup>1</sup>	S	47,800,762,321	S	1,644,586,058	S	49,445,348,379
XI. Present va	Present value of future normal cost (Item X Item I.D.)	S	9,350,473,581	S	142,503,607	s	9,492,977,188

<sup>&</sup>lt;sup>1</sup> Includes System assets and liabilities for members who retired or will retire on or after July 1, 1981 for 401(a).

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<sup>1</sup> Subsequent to the completion of this actuarial valuation, the 50<sup>th</sup> Arizona State Legislature enacted legislation which retroactively reverted the contribution rate percentage back to 50% for employees and 50% for employers, as of July 1, 2011.

#### **ACTUARIAL CERTIFICATION - PLAN AND HBS** (CONTINUED)

#### Arizona State Retirement Plan Actuarial Valuation - June 30, 2012

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 November 23, 2009 the Board adopted assumptions to be effective for valuations on and after June 30, 2011. On November 18, 2011, the Board adopted an optional form load on liabilities and the 0.50% decrease in the wage inflation assumption to be effective for valuations on and after June 30, 2011. These assumptions are as follows:

1. Investment yield - 8% per annum net of all expenses.

#### 2. Salary increases

Years of Service	Merit Component	Total Salary Increase
1	5.00%	9.00%
2	4.00	8.00
3	2.50	6.50
4	1.80	5.80
5	1.40	5.40
6	1.25	5.25
7	1.00	5.00
8	0.80	4.80
9	0.75	4.75
10	0.50	4.50
11 to 19	0.25	4.25
20 or more	0.00	4.00

<sup>\*</sup> Total salary increase rate = wage inflation (or growth) rate (3.25%)

#### 3. Rates of disability

Age	Males	Females	
20	0.04%	0.06%	
30	0.05	0.08	
40	0.16	0.16	
50	0.38	0.36	
60	0.90	0.82	

4. Rates of withdrawal - Sample ages and years of service

	Years of Service					
	Male Members					
Age	1	2	5	8	10+	
20	20.50%	15.00%	9.25%	5.75%	17.24%	
30	20.50	15.00	9.25	5.75	7.63	
40	20.50	15.00	9.25	5.75	3.06	
50	20.50	15.00	9.25	5.75	2.09	
60	20.50	15.00	9.25	5.75	1.46	

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<sup>+</sup> productivity increase rate (0.75%)

<sup>+</sup> merit component

### Arizona State Retirement Plan Actuarial Valuation - June 30, 2012

		Years of Service									
	M	Fe	male Member	S							
Age	1	2	5	8	10+						
20	20.50%	15.00%	9.25%	5.75%	29.00%						
30	20.50	15.00	9.25	5.75	11.08						
40	20.50	15.00	9.25	5.75	3.23						
50	20.50	15.00	9.25	5.75	2.25						
60	20.50	15.00	9.25	5.75	1 19						

5. Rates of retirement - Sample ages and years of service

		Years of	Service	
Age	0-4	5	6-9	10-19
50	0.00%	10.00%	5.00%	5.00%
55	0.00	10.00	5.00	5.00
60	0.00	9.00	9.00	9.00
62	0.00	15.00	15.00	33.00
65	30.00	30.00	30.00	30.00
70	22.00	22.00	22.00	22.00
Age	20	25	30	31+
50	7.00%	8.67%	35.00%	20.00%
55	7.00	25.00	35.00	13.63
60	35.00	25.00	35.00	24.00
62	35.00	25.00	35.00	33.00
65	35.00	25.00	35.00	30.00
70	35.00	25.00	35.00	22.00

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

- 6. Mortality rates 1994 GAM Static, Projected to 2010 with Projection Scale AA with no setback. This mortality assumption was chosen to be used from June 30, 2008 to June 30, 2012. The rates were projected to the middle point of this period and include an appropriate level of conservatism that reflects expected future mortality improvements.
- 7. Mortality rates after disability 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 It is assumed that 70% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 35% of those retirees will be eligible for the dependent premium supplement.

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## **ACTUARIAL CERTIFICATION - PLAN AND HBS (CONTINUED)**

### Arizona State Retirement Plan Actuarial Valuation - June 30, 2012

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 A load of 0.087% has been added to the nonretired 401(a) liabilities to account for the election of optional forms other than a single life annuity.

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 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. Chittenden, FSA, EA, MAAA

Charles E. Chittender

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## **GENERAL ACTUARIAL INFORMATION - PLAN AND HBS**

The following charts prepared by the actuary will serve to indicate some of the more important statistics regarding the retirement program; each chart will identify each membership category separately where possible.

As of June 30, 2012

Active Members	Higher Education Members	Other Education Members	City Members	County Members	State Members	Political Subdivision Members	Total Active Members
Number of Members (active)	23,129	111,273	16,549	21,057	25,862	6,124	203,994
Average age	47.0	45.0	45.8	47.0	47.5	46.2	45.8
Average annual salary	\$51,512	\$37,970	\$54,842	\$47,486	\$46,120	\$57,467	\$43,475
Average years of service	10.0	9.3	10.2	9.8	10.6	7.7	9.6

### As of June 30, 2012

Retired Members	Higher Education Members	Other Education Members	City Members	County Members	State Members	Political Subdivision Members	Total Retired Members
Number of Retirees	13,453	61,110	7,249	12,333	18,835	1,451	114,431
Average age	71.1	69.6	67.6	70.0	70.1	68.5	69.8
Average monthly benefit	\$1,811	\$1,709	\$1,818	\$1,311	\$1,390	\$1,556	\$1,630
Average years of service	19.3	20.4	19.2	17.0	18.4	16.2	19.4

Of all plan retirees at June 30, 2012, 57.8% received annuities of more than \$1,000 per month. 12.8% received less than \$300 per month. Of the retirees, 12.8% are less than 60 years old, 60.8% are between 60 and 75 years old, and 26.4% are over 75 years old.

## **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%. As of June 30, 2012, the date of the most recent actuarial valuation, this funding level is 75.7%. When the present actuarial asset value of \$30.229 billion is compared to the actuarial liabilities of \$39.952 billion, actuarial liabilities exceed actuarial assets by the amount of \$9.723 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.

## Normal Costs and Required Contribution Rates (measured as of June 30, 2012)

The Plan's normal cost, for fiscal year (FY) 2011-2012 was 13.55% and for FY 2010-2011 was 13.34%. The normal cost represents the present value cost, expressed as a percentage of pay, of the current level of benefits provided by the Plan. The Plan has a positive unfunded actuarial accrued liability (an actuarial deficit), which is treated as a debit on the Plan's required contribution rate. Because of the actuarial deficit, the required contribution rate is higher than the normal cost. If the actuarial value of assets and liabilities were equal, the required contribution rate would be the same as the normal cost. Because liabilities exceed assets, the required contribution rate is higher than the normal cost. Components of the normal cost are as follows:

Components of Normal Cost <sup>1</sup>	
Retirement benefits	9.65%
Health insurance premium supplement	0.40%
Survivor benefits	0.39%
Withdrawals	2.72%
Long-term disability benefit	0.39%
Total, Normal Cost	13.55%
Amortization of the UAAL	9.05%
Required contribution rate for FY 2013	22.60%
Required contribution rate for FY 2013	10.90%
Required matching contribution rate shared by member and employer to the nearest 0.05%	10.90%

<sup>&</sup>lt;sup>1</sup> 2010 results include System liabilities and assets for members who retired or will retire on or after July 1, 1981.

### **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 2012 and 2011 actuarial reports, the LTD contribution rate is .40%, .24% for employees and .24% for employers. These rates are effective for FY 2013 and 2012.

## **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.

## SUMMARY OF THE BENEFIT PROVISIONS - PLAN AND HBS

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. 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 19.99	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						Α	ge a	t Dat	te of	Reti	reme	nt				
	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
Members F	lired I	3efore	July	1, 20	11											
5-10	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	88%	91%	94%	97%	100%
10-19	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 H	Hired (	On or	After	July 1	, 201	1										
5-10	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	88%	91%	94%	97%	100%
10+	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	94%	97%	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,
- b) period certain and life annuity (with pop-up) with either five, ten, or fifteen years of payments guaranteed, or
- c) a social security leveling option combined with any of the other forms of payment.

## 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.

## SUMMARY OF THE BENEFIT PROVISIONS - PLAN AND HBS (CONTINUED)

## **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) if (a) is greater than \$5,000, the beneficiary may elect to receive a monthly income for five or ten years certain and life thereafter which is actuarially equivalent to the amount in (a).

## 3. Death of an Active Member After 15 Years of Credited Service or After Eligibility for Early Retirement

Beneficiary receives a benefit in the form of a survivor annuity equal to the benefit that would have been payable to the beneficiary if the participant had retired on the date of his or her death and elected to receive an annuity payable in the form of joint and 100% survivor with the beneficiary named as the joint pensioner.

### 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.

## 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. There is no benefit payable after the retiree dies. 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 COLA up to a maximum of a 4% increase. The COLA is paid from a reserve of "Excess Investment Earnings." If there are no "Excess Investment Earnings" in reserve, then no COLA 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.

## 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 2013 is 10.90% for each member and each employer, based on the 2011 actuarial valuation. The contribution rate for fiscal year 2014 will be 11.30% based on this valuation. Interest is credited at 8.00%; however, interest is credited at 4% from July 1, 2005 for return of contributions upon termination for reasons other than retirement or death.

## STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS PLAN AND HBS

ADOPTED BY BOARD ACTION ON NOVEMBER 23, 2009 AND NOVEMBER 18, 2011 EFFECTIVE AS OF JUNE 30, 2011

## **A. Actuarial Assumptions**

## 1. Investment Yield Rate

8% per annum compounded annually, net of investment expenses

## 2. Mortality

The mortality assumption was chosen to be used from June 30, 2008 to June 30, 2012. 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: 1994 GAM – Static, Projected to 2010 With Projection Scale AA, with no setback. Rates at representative ages are shown below:

Rat	tes of Mortality	(Active)
AGE	MALE PARTICIPANTS	FEMALE PARTICIPANTS
20	0.000373	0.000219
25	0.000563	0.000232
30	0.000739	0.000299
35	0.000785	0.000400
40	0.000943	0.000557
45	0.001280	0.000752
50	0.001929	0.001085
55	0.003255	0.002017
60	0.006162	0.004097
65	0.011600	0.007970
70	0.018633	0.012672
75	0.029696	0.019950
80	0.052813	0.035208
85	0.086903	0.061520
90	0.143432	0.110808

## b) Post-retirement

Assumptions: Non-Disabled rates are based on the 1994 GAM - Static, Projected to 2010 with Projection Scale AA with no setback. Disabled rates are based on the experience of other large public sector retirement systems and ASRS' own experience. Rates at representative ages are shown below.

		Rates o	f Mortality	
	Male Part	icipants	Female Par	rticipants
AGE	NON-DISABLED	DISABLED	NON-DISABLED	DISABLED
20	0.000373	0.051100	0.000219	0.027440
25	0.000563	0.063540	0.000232	0.038300
30	0.000739	0.058810	0.000299	0.053930
35	0.000785	0.040920	0.000400	0.056980
40	0.000943	0.034740	0.000557	0.037590
45	0.001280	0.031360	0.000752	0.025700
50	0.001929	0.031110	0.001085	0.022840
55	0.003255	0.030860	0.002017	0.024605
60	0.006162	0.033730	0.004097	0.026507
65	0.011600	0.048250	0.007970	0.028555
70	0.018633	0.055540	0.012672	0.030762
75	0.029696	0.090010	0.019950	0.036143
80	0.052813	0.146340	0.035208	0.046560
85	0.086903	0.228520	0.061520	0.056647
90	0.143432	0.313770	0.110808	0.068920

## 3. Disability Rates

Ra	Rates of Decrement Due to Disability									
AGE	MALE PARTICIPANTS	FEMALE PARTICIPANTS								
20	0.000431	0.000551								
25	0.000479	0.000603								
30	0.000548	0.000760								
35	0.000822	0.001172								
40	0.001583	0.001583								
45	0.002519	0.002378								
50	0.003846	0.003649								
55	0.005786	0.005266								
60	0.008994	0.008185								

## STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS - PLAN AND HBS (CONTINUED)

4. **Withdrawal Rates** (for causes other than death, disability or retirement)
Select and ultimate withdrawal rates are used. Rates at representative ages are shown below.

		l	Rates	of Deci	ement	Due t	o With	drawa			
				YE	ARS OF	SERVIC	ES				
AGE	0	1	2	3	4	5	6	7	8	9	10+
				ľ	MALE EM	PLOYEES	5				
20	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.1724
30	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0763
40	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0306
50	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0209
60	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0146
70	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0243
				FE	MALE EI	MPLOYE	S				
20	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.2900
30	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.1108
40	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0323
50	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0225
60	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0119
70	0.2775	0.2050	0.1500	0.1250	0.1025	0.0925	0.0800	0.0700	0.0575	0.0525	0.0194

## 5. Salary Scales

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

Years of Service	Merit Component	Total Salary Increase <sup>1</sup>
1	5.00%	9.00%
2	4.00%	8.00%
3	2.50%	6.50%
4	1.80%	5.80%
5	1.40%	5.40%
6	1.25%	5.25%
7	1.00%	5.00%
8	0.80%	4.80%
9	0.75%	4.75%
10	0.50%	4.50%
11 to 19	0.25%	4.25%
20 or more	0.00%	4.00%

<sup>&</sup>lt;sup>1</sup> Total salary increase rate = wage inflation (or growth) rate (3.25%) + productivity increase rate (0.75%) + merit component<sup>2</sup>

## 6. Retirement Age

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

	Rates of Decrement Due to Retirement									
YEARS OF SERVICE - ALL MEMBERS										
AGE	0-4	5	6-9	10-19	20	25	30	31+		
50	0.000	0.100	0.050	0.050	0.070	0.087	0.350	0.200		
55	0.000	0.100	0.050	0.050	0.070	0.250	0.350	0.136		
60	0.000	0.090	0.090	0.090	0.350	0.250	0.350	0.240		
62	0.000	0.150	0.150	0.330	0.350	0.250	0.350	0.330		
65	0.300	0.300	0.300	0.300	0.350	0.250	0.350	0.300		
70	0.220	0.220	0.220	0.220	0.350	0.250	0.350	0.220		

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 70% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 35% of those retirees will be eligible for the dependent premium supplement.

## 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.

## STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS - PLAN AND HBS (CONTINUED)

### 12. Optional Form Load

A load of 0.087% has been added to the non-retired 401(a) liabilities to account for the election of optional forms other than a single life annuity.

## **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 is funded on a level dollar basis over the period of time described in Section 38-737. For the actuarial valuation as of June 30, 2012, the period is 30 years.

## D. Data for Valuation

In preparing the actuarial valuation as of June 30, 2011, 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 Plan Active Member Valuation Data**

Last 6 Years

	Contributing Active Members									
VALUATION AS OF JUNE 30	NUMBER	ANNUAL PAYROLL	ANNUAL AVERAGE PAY	INCREASE IN AVERAGE PAY						
2007	224,001	9,161,803,726	40,901	7.1%						
2008	226,415	9,708,352,896	42,879	4.8%						
2009	222,515	9,834,810,345	44,198	3.1%						
2010	213,530	9,419,951,810	44,115	-0.2%						
2011	208,939	9,060,630,604	43,365	-1.7%						
2012	203,994	8,868,678,184	43,475	0.3%						

## Schedule of Plan Retirees Added to and Removed From Rolls

Last 6 Years

Valuation as of June 30	Retirants and Beneficiaries Added to Rolls		Retirants and Beneficiaries Removed from Rolls		Benefici	rants 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>		
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	107,996	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

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

## Schedule of HBS Retirees Added to and Removed From Rolls

Last 4 Years<sup>2</sup>

Valuation as of June 30	Retirants and Beneficiaries Added to Rolls		Retirants and Beneficiaries Removed from Rolls		Retirants and Beneficiaries Rolls End of Year			ies Rolls	Increase in Annual Allowance	Average Annual Iowances		
	NO.	Αl	ANNUAL LOWANCES	NO.	ΑI	ANNUAL LOWANCES	NO.		ΑL	ANNUAL LOWANCES		
2009	N/A		N/A	N/A		N/A	54,753		\$	82,222,248	N/A	\$ 1,502
2010	5,689	\$	10,358,376	2,647	\$	6,487,680	57,795			86,092,944	4.7%	1,490
2011	6,047	\$	10,459,392	3,199	\$	7,707,744	60,643	3		88,844,592	3.2%	1,465
2012	5,867	\$	9,754,788	3,285	\$	8,936,184	63,225	3		89,663,196	0.9%	1,418

<sup>&</sup>lt;sup>2</sup> Information not available for prior years.

<sup>&</sup>lt;sup>3</sup> Includes 679 System members receiving HBS benefits and 1,705 members receiving LTD benefits and HBS benefits.

## Schedule of Unfunded (Over) Accrued Liabilities (Plan and HBS combined)

Last 10 Years

Year Ended June 30	Aggregate Accrued Liabilities Plan	Actuarial Value of Net Plan Assets	Assets as a % of Accrued Liabilities Plan	Unfunded (overfunded) Accrued Liabilities Plan (UAL)	Active Member Payroll	UAL as a % of Active Member Payroll
2003	24,303,639,447	23,516,898,511	97%	786,740,936	7,296,827,756	10.80%
2004	25,918,329,505	23,642,904,763	91%	2,275,424,742	7,485,590,038	30.40%
2005	27,942,601,285	23,836,519,123	85%	4,106,082,162	8,032,457,947	51.10%
2006	29,696,631,262	24,851,522,776	84%	4,845,108,486	8,311,869,615	58.30%
2007	31,995,671,426	26,476,687,905	83%	5,518,983,521	9,161,803,726	60.20%
2008	33,870,864,745	27,851,825,730	82%	6,019,039,015	9,708,352,896	62.00%
2009	35,742,538,572	28,360,159,450	79%	7,382,379,122	9,834,810,345	75.10%
2010	37,557,862,066	28,823,144,688	77%	8,734,717,378	9,419,951,810	92.70%
2011	38,555,369,013	29,230,960,267	76%	9,324,408,746	9,060,630,604	102.90%
2012	39,952,371,191	30,229,577,272	76%	9,722,793,919	8,868,678,184	109.60%

## Solvency Test (Plan)

Last 10 Years

		Aggregate	Accrued Liabil	ities for:				
Year End		CTIVE MEMBER ONTRIBUTIONS	RETIREES AND BENEFICIARIES	Net Assets Available for Benefits	Portion of Accrued Liabilities Covered by Net Assets Available for Benefits			
June 30		(1)	(2)	(3)		(1)	(2)	(3)
2003		3,110,690,039	10,911,141,534	8,912,910,871 <sup>1</sup>	22,572,007,289	100%	100%	95.9%
2004		3,407,611,954	11,888,766,685	9,209,865,919	22,659,396,325	100%	100%	79.9%
2005		3,717,945,957	12,970,620,699	9,797,630,212 <sup>1</sup>	22,808,290,293	100%	100%	62.5%
2006		4,168,243,157	13,998,186,812	10,025,660,085	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%

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

<sup>&</sup>lt;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

	Aggregate	Accrued Liabili	ties for:				
Year End	ACTIVE MEMBER CONTRIBUTIONS	Net Assets Available for Benefits	Portion of Accrued Liabilities Covered by Net Assets Available for Benefits				
June 30	(1)	(2)	PORTION) (3)		(1)	(2)	(3)
2003	-	517,510,480	851,386,523 <sup>1</sup>	944,891,222	100%	100%	50.2%
2004	-	533,183,961	878,900,986 <sup>1</sup>	983,508,438	100%	100%	51.2%
2005	-	552,285,029	904,119,388 <sup>1</sup>	1,028,228,830	100%	100%	52.6%
2006	-	578,560,443	925,980,765 <sup>1</sup>	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%

 $<sup>^{1}</sup>$  HBS Liabilities for 2006 and earlier are included in Plan liabilities for inactive members.

## Schedule of Recommended vs. Actual Plan Contributions

Last 10 Years

Year Ended June 30	Active Member Payroll	Employee Contributions	Employer Retirement Contribution Rate - Actual	Actuary Recommended Contribution
2003	7,297,000,000	142,356,325	5.20%	5.20%
2004	7,486,000,000	377,436,100	5.20%	5.20%
2005	8,032,000,000	403,269,191	5.20%	5.20%
2006	8,312,000,000	570,581,044	6.90%	1 7.75% 1
2007	9,162,000,000	766,624,734	8.60%	1 7.75% 1
2008	9,708,000,000	857,502,851	9.10%	9.10%
2009	9,835,000,000	844,405,884	8.95%	8.95%
2010	9,420,000,000	808,814,419	9.00%	9.00%
2011	9,061,000,000	833,205,706	9.60%	9.60%
2012	8,869,000,000	905,908,620	10.50%	10.50%

<sup>&</sup>lt;sup>1</sup> The 7.75% rate was determined in the 2004 valuation and would have applied to the 2006/2007 biennium. The Legislature adopted a stairstep approach to increasing contribution rates and set the rate at 6.9% for fiscal year 2006 and 8.6% for fiscal year 2007.

## **Analysis of Financial Experience for the Plan**

Last 10 Years (Dollars in Millions)

	Unfunded Actuarial	Normal								
Year	Liability	Cost for		Interest	On					Gain
Ended	(UAAL)	the	Contributions	at 8%	Normal	_		Expected	Actual	(Loss) for
June 30	Prior Year	Year	for the Year	on UAAL	Cost	Contributions	Total	UAAL	UAAL	the Year <sup>1</sup>
2003	(1,356.52)	781.41	(371.27)	(108.52)	62.51	(14.85)	(60.86)	(1,007.24)	362.74	(1,369.98)
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)

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

## **Analysis of Financial Experience for HBS**

Last 10 Years (Dollars in Millions)

Year Ended June 30	Unfunded Actuarial Liability (UAAL) Prior Year	Normal Cost for the Year	Contributions for the Year	Interest at 8% on UAAL	On Normal Cost	On Contributions	Total	Expected UAAL	Actual UAAL	Gain (Loss) for the Year
2003	320.42	50.32	(4.26)	25.63	4.03	(0.17)	29.49	395.97	424.00	(28.03)
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

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.

## **History of Contribution Rates**

Beginning July 1	~	ear Calculated Rates		Actua	l Rates	Total Rate		
JUIV 1	g	MEMBER	<b>EMPLOYER</b>	MEMBER	<b>EMPLOYER</b>	CALCULATED	ACTUAL	
		7.000/	6 200/	7.000/	7.000/	12 200/	14.000/	
1980		7.00%	6.28%	7.00%	7.00%	13.28%	14.00%	
1981		7.00%	6.29%	7.00%	7.00%	13.29%	14.00%	
1982		7.00%	5.79%	7.00%	7.00%	12.79%	14.00%	
1983		7.00%	6.04%	7.00%	7.00%	13.04%	14.00%	
1984		6.27%	6.27%	6.27%	6.27%	12.54%	12.54%	
1985		5.67%	5.67%	5.67%	5.67%	11.34%	11.34%	
1986		5.53%	5.53%	5.53%	5.53%	11.06%	11.06%	
1987		5.16%	5.16%	4.00%	4.00%	10.32%	8.00%	
1988		5.09%	5.09%	5.09%	5.09%	10.18%	10.18%	
1989		4.69%	4.69%	2.00%	2.00%	9.38%	4.00%	
1990		3.82%	3.82%	3.82%	3.82%	7.64%	7.64%	
1991		3.60%	3.60%	3.60%	3.60%	7.20%	7.20%	
1992		3.59%	3.59%	3.59%	3.59%	7.18%	7.18%	
1993		4.09%	4.09%	3.14%	3.14%	8.18%	6.28%	
1994		3.75%	3.75%	3.75%	3.75%	7.50%	7.50%	
1995		3.95%	3.95%	3.36%	3.36%	7.90%	6.72%	
1996		3.20%	3.20%	3.20%	3.20%	6.40%	6.40%	
1997		3.05%	3.05%	3.05%	3.05%	6.10%	6.10%	
1998		2.85%	2.85%	2.85%	2.85%	5.70%	5.70%	
1999		2.17%	2.17%	2.17%	2.17%	4.34%	4.34%	
2000		2.73% <sup>1</sup>	2.73% <sup>1</sup>	2.17%	2.17%	5.46% <sup>1</sup>	4.34%	
2001		1.92%	1.92%	2.00%	2.00%	3.84%	4.00%	
2002		3.86% <sup>1</sup>	3.86% <sup>1</sup>	2.00%	2.00%	7.72% <sup>1</sup>	4.00%	
2003		5.20%	5.20%	5.20%	5.20%	10.40%	10.40%	
2004		6.96% <sup>1</sup>	6.96% <b>1</b>	5.20%	5.20%	13.92% <mark>1</mark>	10.40%	
2005		7.75%	7.75%	6.90% <sup>2</sup>	6.90% <sup>2</sup>	15.50%	13.80% <sup>2</sup>	
2006		8.70% <sup>1</sup>	8.70% <b>1</b>	8.60% <sup>2</sup>	8.60% <sup>2</sup>	17.40% <sup>1</sup>	17.20% <sup>2</sup>	
2007		9.10%	9.10%	9.10%	9.10%	18.20%	18.20%	
2008		8.94%	8.94%	8.95%	8.95%	17.88%	17.90%	
2009		9.00%	9.00%	9.00%	9.00%	18.00%	18.00%	
2010		9.58%	9.58%	9.60%	9.60%	19.15%	19.20%	
	4, 5	11.13%	9.87%	11.13%	9.87%	20.96%	21.00%	
2011	4, 5	11.55%	10.25%	11.55%	10.25%	21.80%	21.80%	
2013		11.28%	11.28%	11.30%	11.30%	22.55%	22.60%	

<sup>&</sup>lt;sup>1</sup> Hypothetical Rate. The actual contribution rate was set by the prior year valuation.

<sup>&</sup>lt;sup>2</sup> Legislation action has fixed the rates for fiscal 2006and 2007 at 6.9% and 8.6% respectively.

<sup>&</sup>lt;sup>3</sup> Includes System liabilities and assets for members who retired and will retire on or after July 1, 1981. Reflects the change in contribution responsibility from 50% employees and 50% employers to 53% employees and 47% employers.

<sup>&</sup>lt;sup>4</sup> Reflects the change in contribution responsibility from 50% employees and 50% employers to 53% employees and 47% employers.

<sup>&</sup>lt;sup>5</sup> Subsequent to the completion of this actuarial valuation, the 50th Arizona State Legislature enacted legislation which retroactively reverted the contribution rate percentage back to 50% for employees and 50% for employers, as of July 1, 2011.

## ACTUARIAL CERTIFICATION – LTD

## **buck**consultants

A Xerox Company

January 23, 2013

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, 2012

Dear Retirement Board Members:

We certify that the information contained in the attached 2012 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, 2012.

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 and it 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 23, 2013 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 rolling 15-year period. Contribution rates are set annually, based on the valuation of the preceding year. The rate calculated in this report (0.47% in total) will apply in the fiscal year beginning July 1, 2013. 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 analysis was completed in the first quarter of 2008 using experience from July 1, 2002 to June 30, 2007. Revised actuarial assumptions were approved and implemented for the June 30, 2008 valuation. Further revised actuarial assumptions were approved and implemented for the June 30, 2009 valuation and the June 30, 2011 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 experience analysis conducted on actual plan experience from July 1, 2002 to June 30, 2007, revised pre- and post-retirement mortality assumptions were adopted for the June 30, 2008 valuation. Further revised actuarial assumptions were adopted by ASRS for the June 30, 2009 valuation. Rates of retirement, rates of disability and rates of withdrawal were updated to rates recommended as a result of the last experience analysis. A revised salary scale was adopted by ASRS for the June 30, 2011 valuation. The wage inflation rate was decreased by 0.5%.

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 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.



## **ACTUARIAL CERTIFICATION - LTD** (CONTINUED)

Retirement Board January 23, 2013 Page 3

### Data

ASRS staff and Sedgwick (the administrator of the LTD program) supplied census data for participants as of June 30, 2012. 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.

## **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. Chittenden, FSA, EA, MAAA

Principal and Consulting Actuary

Charles & Chittenter

Douglas J. Fiddler, ASA, EA, MAAA

Director, Retirement Actuary

Reza Vahid, FSA, MAAA Director, Health & Productivity

buckconsultants

## **GENERAL ACTUARIAL INFORMATION - LTD**

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

The following table summarizes the key results of the June 30, 2012, actuarial valuation of the Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program.

Amount in 000's	2011	2012
Normal Cost	\$ 28,165	\$ 25,724
Actuarial Accrued Liability	455,695	439,706
Valuation Assets	307,537	295,786
Funded Status on Valuation Assets	67.49%	67.27%
Market Value of Assets	280,856	257,324
Funded Status on Market Value of Assets	61.63%	58.52%
Unfunded Actuarial Accrued Liability (UAAL)	148,158	143,920
Past Service Cost	16,027	15,569
Annual Required Contribution (ARC)	44,192	41,292
Payroll	9,060,631	8,868,678
ARC as % of payroll for each employer	0.23% <sup>1</sup>	0.24%
ARC as % of payroll for each employee	0.26%	0.24%
UAAL as % of payroll	1.60%	1.60%

The following chart will serve to indicate some of the more important statistics regarding the long-term disability program.

Number of LTD Open Claim Members	4,440
Average Age	54.4
Average Monthly Benefit	\$ 1,279

<sup>&</sup>lt;sup>1</sup> Subsequent to the completion of this actuarial valuation, the 50<sup>th</sup> Arizona State Legislature enacted legislation which retro actively reverted the contribution rate back to 50% for employees and 50% for employers, as of July 1, 2011.

## **SUMMARY OF BENEFIT PROVISIONS - LTD**

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 FY14 rate is 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: The contribution allocation between employees and employers has been changed from 53% for employees and 47% for employers to 50% for each.

## STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS - LTD

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, 2012, 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, except for the wage inflation assumption, in its meeting on November 23, 2009. The wage inflation assumption (a 0.50% decrease from the previous year's assumption) was adopted by the ASRS Board in it meeting on November 18, 2011.

We have not audited the data or the asset information used in this valuation, but believe them to be complete and accurate.

## **Summary of Actuarial Methods**

The actuarial cost method is 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 starting as of June 30, 2006. The unfunded actuarial accrued liability is amortized over a rolling 15 year period using a level dollar amortization method.

## **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

1987 Commissioners' Group Long Term Disability Valuation Table (1987 CGDT), applicable to plans with a sixmonth elimination period.

## 3. Disability Incidence Rates for Active Members

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

I	Age	Males	Females
	20	0.04%	0.06%
	30	0.05%	0.08%
	40	0.16%	0.16%
	50	0.38%	0.36%
	60	0.90%	0.82%

### 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 40%. 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 60% 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, 2007.

## 6. Administrative Expense Reserve for Active Members

2.8% of projected claim liabilities. This is the percentage that applies for currently disabled members.

### 7. Elimination Period

A 3% reduction in liabilities is applied to reflect the six-month elimination period for benefits.

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

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

## LTD SCHEDULES

## **Schedule of Benefit Recipients Added to and Removed from Rolls**

Last 6 Years

Valuation as of June 30	Retirants and Beneficiaries Added to Rolls		Retirants and Beneficiaries Removed from Rolls		Retirants and Beneficiaries Rolls End of Year		% Increase in Annual Allowance	Average Annual Allowances
Julie 30	NO.	ANNUAL <sup>1</sup> ALLOWANCES	NO.	ANNUAL <sup>2</sup> ALLOWANCES	NO.	ANNUAL <sup>1</sup> ALLOWANCES	Allowance	Allowalices
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

Reflects actual, but not assumed, benefit offsets. Does not include overpayment offsets.
 Includes changes in benefit amounts.

## Schedule of Unfunded (Over) Accrued Liabilities

Last 6 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 (over funded) Accrued Liabilities Plan (AAL)	Active Member Payroll	UAAL as a % of Active Member Payroll
2007	604,486	231,685	38.3%	372,800	9,161,804	4.10%
2008	553,185	274,902	49.7%	278,283	9,708,353	2.90%
2009	476,276	311,232	65.4%	165,044	9,834,810	1.70%
2010	477,266	319,308	66.9%	157,958	9,419,952	1.70%
2011	455,695	307,537	67.5%	148,158	9,060,631	1.60%
2012	439,706	295,786	67.3%	143,920	8,868,678	1.60%

## **Solvency Test**

Last 6 Years (Dollars in Thousands)

Aggregate Accrued Liabilities for:							
Year End June 30	(E		ACTIVE MEMBERS (EMPLOYER FINANCED PORTION)	Net Assets Available for Benefits	Liabi by	ilities C Net As	
	(1)	(2)	(3)		(1)	(2)	(3)
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%

## Schedule of Recommended vs. Actual LTD Contributions

Last 10 Years (Dollars in Thousands)

Year Ended June 30	Active Member Payroll	Employee Contributions	Employer LTD Contribution Rate - Actual	Actuary Recommended Contribution
2003	7,297,000	36,485	0.50%	0.50%
2004	7,486,000	37,430	0.50%	0.50%
2005	8,032,000	40,160	0.50%	0.50%
2006	8,312,000	41,560	0.50%	0.50%
2007	9,162,000	45,810	0.50%	0.50%
2008	9,708,000	48,540	0.50%	0.50%
2009	9,834,810	49,174	0.50%	0.50%
2010	9,419,952	37,680	0.40%	0.40%
2011	9,060,630	23,558	0.48%	0.48% <sup>1</sup>
2012	8,868,678	20,881	0.50%	0.50%

<sup>&</sup>lt;sup>1</sup> Subsequent to the completion of the June 30, 2011 Actuarial Valuation which set the LTD rate at .50% beginning July 1, 2011, the 50<sup>th</sup> Arizona State Legislature enacted legislation which retroactively reverted contribution rates back to 50% for employees and 50% for employers and resulted in a revision of the LTD rate to .48% beginning July 1, 2011.

## **Analysis of Financial Experience for LTD**

As of June 30, 2012

	Lives		Reserves
1. CHANGE IN OPEN CLAIMS RESERVES			
The increase in the reserves for payments not yet due on disable follows:	ed lives may be	sumn	narized as
(a) Open Claims Reserve Liability on July 1, 2011	4,609	\$	227,691,734
(b) Change in reserve on 3,857 continuing disabled lives	N/A		(31,071,482)
(c) Reserves released on terminated lives	(878)		(22,084,264)
(d) Reserves added on new lives	709		43,366,726
(e) Open Claims Reserve Liability on June 30, 2012			
= (a) + (b) + (c) + (d)	4,440	\$	217,902,714
2. DEVELOPMENT OF LIABILITY (GAIN)/LOSS			
(a) Actuarial Accrued Liability as of July 1, 2011		\$	455,695,240
(b) Normal Cost for 2011/2012			28,164,635
(c) Expected Benefit Payments for 2011/2012			68,570,000
(d) Expected Actuarial Accrued Liability on June 30, 2012			
$= ((a) + (b)) \times 1.08 - (c) \times (1 + .08 \times 13/24)$			451,027,298
(e) Change in Plan Terms			N/A
(f) Change in Assumptions			N/A
(g) Liability (Gain)/Loss			(11,321,239)
(h) Actual Actuarial Accrued Liability on June 30, 2012			
= (d) + (e) + (f) + (g)		\$	439,706,059
3. SOURCES OF LIABILITY (GAIN)/LOSS			
(a) Offset (Gain)/Loss		\$	(4,806,691)
(b) Liability for members who were terminated in last year's va	luation		8,840,516
(c) More Terminations than Expected			(1,112,971)
(d) Fewer LTD Retirees than Expected			(9,368,925)
(e) Salary Gain on Continuing Actives			(5,783,297)
(f) New Active Entrants			4,787,929
(g) Other (Gain)/Loss			(3,877,800)
(h) Liability (Gain)/Loss			
= (a) + (b) + (c) + (d) + (e) + (f) + (g)		\$	(11,321,239)

4. DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS		
(a) Excess (Shortfall) of Investment Income:		
(i) Current Year	\$	(18,922,274)
(ii) Current Year – 1		36,999,159
(iii) Current Year – 2		10,543,678
(iv) Current Year – 3		(68,696,736)
(v) Current Year – 4		(44,661,134)
(vi) Current Year – 5		11,421,699
(vii) Current Year – 6		1,895,241
(b) Deferral of Excess (Shortfall):		
(i) Current Year (90% Deferral)		(17,030,047)
(ii) Current Year – 1 (80% Deferral)		29,599,327
(iii) Current Year – 2 (70% Deferral)		7,380,575
(iv) Current Year – 3 (60% Deferral)		(41,218,042)
(v) Current Year – 4 (50% Deferral)		(22,330,567)
(vi) Current Year – 5 (40% Deferral)		4,568,680
(vii) Current Year – 6		568,572
(viii) Total Deferred for the Year		(38,461,502)
(c) Market Value of Assets as of June 30, 2012		257,324,263
(d) Actuarial Value of Assets as of June 30, 2012 = (c) - (b)(viii)	\$	295,785,765
5. DEVELOPMENT OF ASSET (GAIN)/LOSS		
(a) Actuarial Value of Assets as of July 1, 2011	\$	307,536,890
(b) Contributions		41,996,508
(c) Actual Benefit Payments for 2011/2012		65,189,521
(d) Administrative Expenses		2,739,507
(e) Expected Investment Income at 8% Return =		
$((a) \times .08) + ((b) \times .08 \times 1/2) - ((c) \times .08 \times 13/24)$		23,457,932
(f) Expected Actuarial Assets as of June 30, 2012 = (a) + (b) - (c) - (d) + (e)		305,062,302
(g) Gain/(Loss) on Actuarial Assets		9,276,537
(h) Actuarial Assets as of June 30, 2012 = (f) - (g)	\$	295,785,765
The asset loss occurred because investment earnings on actuarial assets were less. The actual net return on actuarial assets was 4.84%, compared to the assumption net return on market value of assets was .90%, compared to the assumption of $8^\circ$	of 8 <sup>o</sup>	

6. ANALYSIS OF SEDGWICK OFFSETS	AMOUNT OF MONTHLY OFFSETS	NUMBER WITH OFFSETS
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
Description of Offset from Sedgwick as of June 30, 2011		
Social Security Disability	\$ 2,591,123	3,431
Social Security Retirement	121,389	145
Other	492,182	986
Total	\$3,204,694	4,562

## A. LEGISLATED PLAN CHANGES ENACTED BY THE 1989 LEGISLATURE OF THE STATE OF ARIZONA

## 1. Projected Unit Credit (PUC) Funding Method

Beginning with the June 30, 1989 actuarial valuation, the total employee and employer contributions payable beginning July 1, 1990 shall be determined using the Projected Unit Credit (PUC) funding method.

## 2. \$12,000 Minimum Average Compensation for Current Retirees

Recalculation of the retirement benefit for all plan members retired before June 30, 1989 who had 10 years of credited service using a minimum average compensation of one thousand dollars per month.

### 3. 2.0% Ad Hoc COLAs

- Effective July 1, 1989, all members retired on or before June 30, 1988 shall receive a 2.0% permanent benefit increase to their December 31, 1988 base benefit.
- Effective July 1, 1990, all members retired on or before June 30, 1989 shall receive a 2.0% permanent benefit increase to their June 30, 1990 base benefit.

## 4. Early Retirement Window

During the period of May 15, 1989 through November 14, 1989 a member who is eligible for either Normal Retirement or Early Retirement with age plus credited service at least equal to 80, may retire and receive a benefit calculated using a 2.2% multiplier instead of the 2.0% multiplier in effect at that time.

## 5. 3.0% Tax Equity Allowance

Retroactive to the later of January 1, 1989 or the date payments commence, each member retiring on or before September 14, 1989 shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her January 1, 1989 base benefit.

## B. LEGISLATED PLAN CHANGES ENACTED BY THE 1990 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Rule of 82

Effective May 1, 1990, the number of points (sum of member's age and years of service) required to be eligible for normal retirement shall be reduced from 85 to 82. Also, the early retirement reduction factor for employees with 77 or more points but less than 82 points shall be 3% for each point or fraction thereof less than 82.

## 2. 3.0% Tax Equity Allowance

Each member who retires between September 15, 1989 and September 14, 1990 shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her base benefit, retroactive to the date of retirement.

## 3. Graded Vesting for Health Insurance Premium Supplement

The Health Insurance Premium Supplement is extended to those qualifying members with between five and nine years of service. The member will be eligible to receive 10% of the benefit for each completed year of service (i.e., 50% to 90%).

# C. LEGISLATED PLAN CHANGES ENACTED BY THE 1991 LEGISLATURE OF THE STATE OF ARIZONA

### 1. 3.0% Tax Equity Allowance

Each member who retires between September 15, 1990 and September 14, 1991 shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her base benefit, retroactive to the date of retirement.

## 2. Recalculation of Retiree Benefits Using 2.0% Benefit Multiplier

Each retired member with at least 10 years of service who retired prior to June 30, 1985 shall have his or her benefit recomputed. The recomputed benefit shall be equal to 2% times final average earnings times credited service plus an additional \$2 for each year of service. The retired member will receive the larger of the recalculated benefit or his/her current benefit. This increase is effective October 1, 1991.

#### 3. 2.3% Ad Hoc Increase

Effective July 1, 1991 all members retired on or before June 30, 1990 shall receive a 2.3% permanent benefit increase in their June 30, 1991 base benefit.

### 4. Rule of 80

Effective July 1, 1992, the number of points (sum of member's age and years of service) required to be eligible for normal retirement shall be reduced from 82 to 80. (For continuation purposes this legislation is not reflected until the 1993/94 fiscal year).

## 5. Pop-up Option

A pop-up option is added for retiring members who first participate in the Plan on or after December 31, 1991.

# D. LEGISLATED PLAN CHANGES ENACTED BY THE 1992 LEGISLATURE OF THE STATE OF ARIZONA

## 1. 3.0% Tax Equity Allowance

Each member who retires between September 15, 1991 and September 14, 1992 shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her base benefit, retroactive to the date of retirement.

#### 2. Minimum Retiree Benefit

Each retiree of the Arizona State Retirement Plan who is at least age 75 on December 31, 1992 and who had at least ten years of service upon retirement from the plan shall be eligible for a minimum benefit. If the eligible retiree had at least ten years of service but less than fifteen years, his minimum benefit is \$350 a month. If the eligible retiree had at least fifteen years of service but less than twenty, his minimum benefit is \$500. If the eligible retiree had at least twenty years of service his minimum benefit is \$600. The minimum benefit shall be compared to the retiree's current benefit (including all ad hoc increases).

#### 3. 5% Ad Hoc Increase

Effective November 1, 1992 all members retired on or before October 31, 1992 shall receive a 5% permanent benefit increase in their October 31, 1992 benefit.

#### 4. Forfeited Service Repurchase

Any present active member who has previously forfeited service has until December 31, 1994 to repurchase the forfeited service by paying the Plan the employee and employer contributions (accumulated with interest) which would have been contributed during the member's period of forfeited service.

#### 5. Repurchase of Service Due to Reduction in Force

Any present active member who was terminated prior to December 31, 1992 as a result of a required reduction in force may purchase the credited service for the following period of unemployment if the member had five or more years of service at the time of termination and resumed employment with a participating employer within two years of termination. The cost of the repurchase is the total of the employee and employer contribution (accumulated with interest) which would have been contributed during the member's period of unemployment.

#### 6. Change in Section 38-781.05 Funding Method

Section 38-781.05 of the plan was amended so that the funding period for the Plan would continue to be the period between valuation and June 30, 2003 as long as the Plan has a negative Unfunded Actuarial Accrued Liability. If the Plan were to have a positive UAAL, then the old funding mechanism would apply.

### E. LEGISLATED PLAN CHANGES ENACTED BY THE 1993 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. No benefit changes were passed by the 1993 Legislature.

However, the Legislature passed legislation to reduce the required contribution rate of 4.09% down to 3.14%.

### F. LEGISLATED PLAN CHANGES ENACTED BY THE 1994 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Minimum LTD Benefit

Each member on long term disability will receive a minimum monthly benefit of \$50.

#### **SUMMARY OF LEGISLATIVE PLAN CHANGES (CONTINUED)**

#### 2. Minimum Retiree Benefit

Each retiree of the Arizona State Retirement Plan who is at least age 75 and who had 20 or more years of service at retirement will receive a minimum monthly benefit of \$600.

#### 3. Pop-up Benefit

Members who retired prior to January 1, 1992 and who elected a Joint and Survivor option shall receive a "Pop-up" in their retirement income if their beneficiary pre-deceases them.

#### 4. Excess Investment Earnings COLA

Retirees at least age 55 who have been retired at least one year and members on long-term disability are eligible to receive a cost-of-living adjustment equal to one-half the increase in CPI for the prior calendar year. The COLA will be paid from a reserve of Excess Investment Earnings. If there are no Excess Investment Earnings in reserve, no COLA will be granted.

#### 5. Change in Section 38-737 Funding Period

Section 38-737 was amended to change the funding period of the Plan to a rolling 30-year period. The change is to be phased-in over the next nineteen years. If the Plan ceases to have a surplus, the funding period would immediately go to 30-years.

## G. LEGISLATED PLAN CHANGES ENACTED BY THE 1995 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Change in Maximum Increase Provided by Excess Investment Earnings COLA

The maximum COLA payable from Excess Investment Earnings was increased from 50% to 100% of the increase in the CPI.

#### 2. Removal of LTD Benefit from the Plan

The Legislature established a new LTD program and removed the LTD benefit from the Plan. Liabilities for current LTD recipients will be transferred to the new LTD program effective October 1, 1995.

#### 3. Creation of Separate Account for the Health Premium Supplement

The Health Premium Supplement benefit is to be separated into a 401(h) account. The assets and liabilities associated with the Health Premium Supplement will be accounted for separately.

## H. LEGISLATED PLAN CHANGES ENACTED BY THE 1996 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. No material changes.

### I. LEGISLATED PLAN CHANGES ENACTED BY THE 1997 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Creation of family Health Supplement.

Allows unused portion of the Health Supplement of a member or dependent to be used to pay the other recipient's health insurance premium.

- 2. The calculation methodology for the Excess Investment Earnings COLA was modified.
- 3. The contribution rate will be determined on a biennial cycle beginning with the 2000 fiscal year.

## J. LEGISLATED PLAN CHANGES ENACTED BY THE 1998 LEGISLATURE OF THE STATE OF ARIZONA

1. No material changes.

### K. LEGISLATED PLAN CHANGES ENACTED BY THE 1999 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Enhanced Refund Option

Employees who terminate prior to eligibility for retirement may elect to receive a refund of their employee contributions with interest. If the employee has at least five years of service, the employee is also entitled to a share of the employer contributions with interest. The share is 50% with five years of service and increases 10% for each additional year of service to a maximum of 100% for ten or more years of service.

#### 2. Benefit Multiplier Increased to 2.1%

The benefit multiplier increased from 2.0% to 2.1% effective July 1, 2000.

#### 3. 5% Ad Hoc Increase

A 5% retiree ad hoc increase for retirees and beneficiaries effective July 1, 2000.

#### 4. Increase in Maximum Service While on LTD

Increase in the maximum amount of service that may be accrued while on LTD from 25 to 30.

#### 5. Changes in Permanent Benefit Increase COLA

- a) The maximum aggregate COLA was increased from 3% to 4%.
- b) The threshold for determining "Excess Earnings" was lowered from 9% to 8%.
- c) The limitation of the COLA to the increase in the CPI was removed.

## L. LEGISLATED PLAN CHANGES ENACTED BY THE 2000 LEGISLATURE OF THE STATE OF ARIZONA

1. The age restriction on the Permanent Benefit Increase was eliminated.

## M. LEGISLATED PLAN CHANGES ENACTED BY THE 2001 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Health Insurance Premium Benefit Increase

Increases the health insurance premium benefit for eligible members as follows:

- Benefit for Medicare eligible member with member only coverage increased from \$65 to \$100
- Benefit for non-Medicare eligible member with member only coverage increased from \$95 to \$150
- Benefit for family coverage where member and dependent are non-Medicare eligible increased from \$175 to \$260
- Benefit for family coverage where member and dependent are Medicare eligible increased from \$115 to \$170
- Benefit for family coverage where member is Medicare eligible and dependent is non-Medicare eligible increased from \$145 to \$215
- Benefit for family coverage where member is non-Medicare eligible and dependent is Medicare eligible increased from \$145 to \$215

#### 2. Graded Multiplier

Provides a graded multiplier in the retirement benefit formula, increasing with years of service according to the following:

- 0.00 to 19.99 Years of Service 2.10%
- 20.00 to 24.99 Years of Service 2.15%
- 25.00 to 29.99 Years of Service 2.20%
- 30.00 or More Years of Service 2.30%

#### 3. Employer Option Service Purchase Incentive

Permits an employer to offer a member who is eligible to retire under the Rule of 80 a contract to work an additional three years of employment. No contributions are made to ASRS during the contract. If the employee completes the contract, then they receive an additional three years of service with the option to purchase three more years of service.

#### 4. Permanent Benefit Increase Enhancement

Provides that interest at a rate of 8% be credited on the funds held in reserve for the permanent benefit increase (PBI). This interest will then be used to fund an additional increase for retirees who have at least 10 years of service and who have been retired at least five years. The increase is incremental for each five years of retirement.

#### 5. Temporary Rural Health Insurance Premium Benefit

In addition to the premium benefit paid to ASRS retired and disabled members, the Legislature granted a temporary benefit for retired and disabled members who live in areas of the state not served by a managed care program (HMO) and who have 10 years of credited service in the following amounts:

- Benefit for Medicare eligible member with member only coverage of \$170 per month
- Benefit for non-Medicare eligible member with member only coverage of \$300 per month
- Benefit for Medicare eligible members with Medicare eligible dependent with family coverage of \$350 per month
- Benefit for non-Medicare eligible members with non-Medicare eligible dependent with family coverage of \$600 per month
- Benefit for Medicare eligible members with non-Medicare eligible dependent with family coverage of \$470 per
- Benefit for non-Medicare eligible members with Medicare eligible dependent with family coverage of \$470 per month

#### 6. Partial Lump Sum Option

Allows a retiring member to receive a portion of his benefit in a lump sum payment. The lump sum is limited to a maximum of 36 monthly payments. The member's monthly annuity is actuarially reduced to reflect the lump sum payment.

#### 7. Maximum Benefit

Members who are hired after the date the graded multiplier became law have a maximum benefit equal to 80% of the member's 36-month final average earnings.

### N. LEGISLATED PLAN CHANGES ENACTED BY THE 2002 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. No material changes.

## O. LEGISLATED PLAN CHANGES ENACTED BY THE 2003 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Additional Temporary Health Insurance Premium Benefit (Rural Subsidy)

The Legislature extended the additional temporary Rural Health Insurance Subsidy for two years, beginning July 1, 2003 and ending June 30, 2005. The full benefit is provided to retired and disabled members who live in areas of the state not served by a Health Maintenance Organization (HMO) and who have 10 years of credited service. The Rural Health Insurance Subsidy now requires "minimum out of pocket" payments ranging from \$100 to \$425 per month, depending on the plan and coverage selected.

Rural Health Insurance Subsidy	without	Coverage Medicare A & B	Insurance Co Medicare P	overage with arts A & B <sup>1</sup>
JUNE 1, 2003 - JUNE 30, 2005	SINGLE	FAMILY	SINGLE	FAMILY
Required Minimum Out-of-Pocket Payment	\$125	\$425	\$100	\$200
Rural Health Insurance Subsidy (Maximums)	Up to \$300	Up to \$600	Up to \$170	Up to \$350

<sup>&</sup>lt;sup>1</sup> Combination plans that include Medicare eligible and non-Medicare eligible retiree and dependent coverage require a \$400 monthly out of pocket payment.

## P. LEGISLATED PLAN CHANGES ENACTED BY THE 2004 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Service Purchase Program

The Arizona Legislature revised the method of calculating the cost of service purchases, so that future purchased would be made at true actuarial present value.

#### 2. Early Retirement Incentive Programs

The Arizona Legislature provided that employers that participate in ASRS and offer early retirement incentives to their employees must notify the ASRS of the incentives. ASRS will determine the cost of the incentives and the employers will pay the cost.

#### 3. Long-Term Disability Program

The Arizona Legislature revised and clarified LTD provisions so that disabled members will be required to participate in rehabilitation programs and to pursue Social Security Disability benefits. In addition, the legislation limited the receipt of disability benefits on the basis of a member's "own occupation" to 24 months, rather than to 24 consecutive months.

### Q. LEGISLATED PLAN CHANGES ENACTED BY THE 2005 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Temporary Rural Health Insurance Premium Benefit

The Legislature extended the temporary Rural Health Insurance Subsidy for the next two years, from July 1, 2005 to June 30, 2007. The benefit is provided to Medicare-eligible retirees and disabled members who live in Arizona counties with no Health Maintenance Organization (HMO) service area and who have 10 years of credited service.

#### 2. Contribution Rates

The Legislature pegged the contribution rates for fiscal 2006 and 2007 at 6.90% and 8.60%, respectively. After fiscal 2007, contribution rates are to be determined annually.

### R. LEGISLATED PLAN CHANGES ENACTED BY THE 2006 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Elections After Retirement

Legislature limited the ability of ASRS retirees to rescind their elections after retirement. Specifically, members who have chosen a form with a death benefit can "pop up" once to the single life form, but are then not allowed to "pop down" to a death benefit form. ASRS will implement this provision upon receipt of a private letter ruling from the Internal Revenue Service.

#### 2. Conformance with Certain Federal Regulations

State statutes were modified to conform to federal regulations regarding military service purchases, optional forms of retirement benefits, and minimum required distributions.

#### 3. Repeal of Deferred Retirement Option Plan

The Legislature repealed the modified Deferred Retirement Option Plan (DROP).

### S. LEGISLATED PLAN CHANGES ENACTED BY THE 2007 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Social Security Offsets and Pre-Existing Condition Period

Offset percentages for Social Security disability benefits were increased from 64% to 85% and for Social Security retirement benefits from 83% to 85% for members who become disabled on or after July 1, 2008. The pre-existing condition period is increased from three months to six months for members hired on or after July 1, 2008. ASRS is required to recover overpayments by reducing future benefits to a member, beneficiary, or alternate payee.

#### **SUMMARY OF LEGISLATIVE PLAN CHANGES (CONTINUED)**

#### 2. Temporary Rural Health Insurance Premium Benefit

The Legislature extended the temporary Rural Health Insurance Subsidy for two years from July 1, 2007 to June 30, 2009. The benefit is provided to Medicare-eligible retirees and disabled members who live in Apache, Gila, Mohave, or Navajo counties if they have ten years of credited service.

#### 3. Exemption of Post-Doctoral Scholars

Effective September 19, 2007, post-doctoral scholars are exempted from ASRS membership.

#### 4. Expanded Eligibility for Active Military Service Credit

Effective July 1, 2007, the term "presidential" call-up is changed to "military" call-up. It applies death and disability benefits to those that occur during active military service rather than just to those that are a result of active service. The law allows a member who becomes disabled during or as a result of active service to receive service credit (paid by the employer) from the date active service began through one year after the member's date of disability if the member cannot return to work. The disability provision expires June 30, 2009.

## T. LEGISLATED PLAN CHANGES ENACTED BY THE 2008 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Unclaimed Property Exemption and Procedures

Legislation exempted ASRS from unclaimed property statutes. ASRS members will forfeit their benefits if they do not claim them by the time they reach age 73½. If such a member later claims his benefit, his benefit will be restored with interest if applicable. ASRS will send notices to members beginning at age 65½, and will make efforts to find lost members.

#### 2. Divestment from Companies Investing in Iran or Doing Business in Sudan

ASRS must engage with and potentially divest from companies that have invested, since August 5, 1996, \$20 million or more in any year in Iran's petroleum energy sector or that meet specific Sudan-related business operations criteria. Additionally, ASRS must divest from companies that violate paragraph 6(j) of the Export Administration Act.

#### 3. Transfer Procedures

For voluntary transfers, the legislation allowed retired or disabled members to elect whether to remain with ASRS or to transfer to another system and specified how a transfer will affect payroll deduction agreements. For a transfer that is mandated by either statute or an employer, the legislation required retired or disabled members to remain with ASRS and specified how a transfer will affect payroll deduction agreements.

#### 4. Transfer Out Bills

These bills expanded the ASRS credited service that a dispatcher may transfer to CORP and extended the time-frame for ASRS to transfer assets from 60 to 90 days. They expanded the definition of designated position to include State detention officers and provided that all prior ASRS service will transfer to CORP unless the employee irrevocably elects to remain with ASRS. They allowed the local board of the judiciary to designate certain positions within the Administrative Office to the Courts for membership in CORP.

#### 5. Plan Administration

This bill modified one of the salary calculations used for service purchases to be the average of the three pay periods (out of the last five) that remain after the pay periods with the highest and lowest pay are removed. It clarified that the salary calculations used for other public service purchases are also used for leave of absence purchases. It granted the ASRS Board rulemaking authority over the Plan, LTD program, and transfers. It clarified that a member who purchases forfeited service credit is subject to the benefit structure in place when the person again becomes a member. Finally, it required ASRS to recover overpayments by reducing benefits owed to a member, beneficiary, or alternate payee.

#### 6. Federal Conforming Changes

The Legislature made changes to comply with federal laws and IRS regulations, most notably the Economic Growth and Tax Relief Reconciliation Act of 2001.

### **U. LEGISLATED PLAN CHANGES ENACTED BY THE 2009 LEGISLATURE OF** THE STATE OF ARIZONA

#### 1. Service Purchase

Effective July 1, 2010, members will be required to have five years of service credit in ASRS before initiating a service purchase.

#### 2. 80% Cap on Benefits

Effective July 1, 2010, the maximum limit on ASRS pensions of 80% of 36-month final average earnings is eliminated.

#### 3. Return to Work

Retired members who return to work with a suspension of benefits and work for at least 60 consecutive months will be permitted to choose a new optional form of benefit when they again retire.

Retired members are allowed to return to work without suspension if the member returns to a different position that does not require participation and the member participates in another program.

#### 4. Administration

ASRS is exempt from State Personnel Management and Personnel Board provisions and the State classification and compensation statute.

#### 5. Early Termination Incentives

The scope of the early termination incentive statute is broadened and exceptions are limited.

#### **SUMMARY OF LEGISLATIVE PLAN CHANGES (CONTINUED)**

#### 6. Dual Employment

Contributions from a second employer will count, beginning January 1, 2010, only if member meets 20/20 membership criteria with respect to the second employer, with certain exceptions.

## V. LEGISLATED PLAN CHANGES ENACTED BY THE 2010 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Average Monthly Compensation

The Average Monthly Compensation used in the retiring member's retirement benefit calculation is changed from the average of the highest consecutive 36 months in the last 120 months to the average of the highest consecutive 60 months in the last 120 months for a member whose membership commences on or after July 1, 2011.

#### 2. Normal Retirement Date

The Normal Retirement Date definition is changed from 80 to 85 points (age plus years of service) for a member whose membership commences on or after July 1, 2011.

#### 3. Early Retirement Deductions

The Early Retirement reductions were also modified to conform to the 85 point normal retirement for a member whose membership commences on or after July 1, 2011 by adjusting the period over which the reduction is calculated.

#### 4. Employer Contribution Refunds

Employer contribution refunds are eliminated for a member hired on or after July 1, 2011 except for a member who was terminated due to an Employer Reduction in Force or position eliminated, in which case the member will receive the current refund vesting schedule.

#### 5. Long-Term Disability Plan Appeals

A person appealing an ASRS decision under the LTD Program (usually a decision of an Administrative Law Judge) may request that the ASRS Board hear the appeal in Executive Session, rather than in a Public Hearing. The request for Executive Session must be made at least 48 hours in advance and the Board shall then conduct the hearing in Executive Session. The Board is required to follow existing Executive Session procedures established in the Open Meeting Law statutes. Minutes of and discussions held at an Executive Session are confidential except from the appellant for use in the appellant's further appeal to the Superior Court.

#### 6. Health Insurance

A retiree may no longer purchase individual health care coverage and receive the Health Benefit Supplement (HBS). [NOTE: this provision will not eliminate the HBS or ASRS insurance enrollees or retirees enrolled in their former Employer's insurance.] ASRS may continue to pay the HBS to a retiree who is receiving the payment under the current statutory provisions (one retiree).

#### 7. Compensation

I.R.C. 415 Compensation Regulations and military differential wage payments from the Heroes Earnings Assistance and Relief Tax Act of 2008 (HEART Act) have been updated as required by the Internal Revenue Service.

### W.LEGISLATED PLAN CHANGES ENACTED BY THE 2011 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Eligibility of New State Employees

State employees hired after July 20, 2011, will not be eligible for the ASRS Plan or LTD program before their 27<sup>th</sup> week of employment, unless they are already members of ASRS.

#### 2. Normal Retirement Age

For members whose membership commenced on or after July 1, 2011, the 85-point requirement is removed and replaced by two rules: age 60 and 25 years of credited service or age 55 and 30 years of credited service. Early retirement reductions are adjusted to reflect these new rules.

#### 3. Service Purchase Rules

Purchases of Other Public Service, Leave of Absence Service, and Military Service (except USERRA or Heart Act purchases) are limited to 60 months for each type of purchase, and a member is required to have ten years of credited service before initiating a request to purchase such service.

#### 4. Return to Work Rules

Employers are required to pay an Alternate Contribution Rate (ACR) for retired members who return to work on or after July 1, 2012, in any capacity and in a position ordinarily filled by an employee of the employer. The ACR is the greater of 2% or the contribution rate to fund the deficits of the Plan and LTD program, but not greater than the employer's portion of the total contribution rate for the Plan and LTD program.

#### 5. Split of Contributions

Retroactive to July 1, 2011, responsibility for making contributions to the ASRS Plan and LTD programs is changed from 50% employees and 50% employers to 53% employees and 47% employers. Pre-retirement survivor benefits are based on the sum of the employee and employer balances, rather than twice the employee balance.<sup>1</sup>

<sup>1</sup> Subsequent to the completion of this actuarial valuation, the 50<sup>th</sup> Arizona State Legislature enacted legislation which retro actively reverted the contribution rate back to 50% for employees and 50% for employers, beginning July 1, 2011.

## X. LEGISLATED PLAN CHANGES ENACTED BY THE 2012 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Forms of Pension

Partial lump-sum payments are to be based on single-life annuity form of payment. Level Income Alternative option is eliminated for new retirements after July 1, 2013.

#### 2. Service Purchase Rules

This provision reduces the credited service requirement to purchase Other Public Service, Leave of Absence time, or Military Service to five years.

#### 3. Health Benefit Supplements

For new retirees and disabilities after August 1, 2012, this provision eliminates health supplements for retirees and disabled members who are covered under an active employee plan, either as an insured or as a dependent, except that if the member is a dependent and the ASRS employer is not subsidizing the premium that the retiree or disabled member must pay, the member is entitled to a single coverage subsidy.

#### 4. Long-Term Disability Plan

This provision caps total income at 100% of member's pre-disability pay for new disabilities after August 1, 2012. It also requires objective medical evidence to support claims.

#### 5. Split of Contributions

This provision revises the split of contributions between members and employers to be a 50%/50% split, and provides for the return to members of the contribution amounts in excess of 50% that members had previously contributed.

#### 6. Employers that Cease Participation in ASRS

This provision requires ASRS to charge employers for their share of the unfunded actuarial liabilities in the Plan and LTD programs if the employers cease to participate because of privatization, bankruptcy, or a change from public to private status. It is effective for cessations that occur on or after January 2, 2013.

#### 7. Opt-out of ASRS for Members First Hired before July 1, 2015

Members who first become employees of an ASRS employer on or after Age 65 and before July 1, 2015, can irrevocably elect not to participate in ASRS. ASRS must report on this provision by December 31, 2014.

#### 8. Spousal Consent

Married members must select their spouses as their beneficiaries and must select an option with at least 50% continuation to their spouses, unless spouses waive these requirements in writing. This provision applies to retirements, beneficiary designations, or beneficiary changes that occur on or after July 1, 2013.

## ARIZONA STATE RETIREMENT SYSTEM

## A Component Unit of the State of Arizona



# 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.

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#### Revenues

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

	al Contribution Rates – Last 10 Fiscal Years 151
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### **Operations**

These schedules contain information about the ASRS's Operations.

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

# Net Position Last 10 Fiscal Years (Dollars in Thousands)

Retirement Net Position					Fiscal Year	ar				
ASSETS	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cash, Receivables, and Prepaids	\$ 2,139,601	5,091,244	\$ 2,396,175	\$ 2,197,053	\$ 2,095,722 \$	\$ 888'298	975,021	\$ 1,056,204 \$	\$ 1,006,349	\$ 1,062,311
Investments at Fair Value	23,291,652	24,154,827	25,699,691	30,978,445	29,021,366	23,379,787	24,620,142	27,911,298	26,247,996	29,225,574
Total Assets	25,431,253	26,246,071	28,095,866	33,175,498	31,117,088	24,247,675	25,595,163	28,967,502	27,254,345	30,287,885
LIABILITIES										
Investments Payable	4,938,242	4,654,687	4,853,112	6,078,211	6,368,470	4,313,128	3,404,191	2,086,445	795,215	1,187,021
Other Payables	7,822	20,470	23,108	27,729	31,431	54,094	44,012	41,834	52,036	75,434
Total Liabilities	4,946,064	4,675,157	4,876,220	6,105,940	6,399,901	4,367,222	3,448,203	2,128,279	852,251	1,262,455
NET POSITION	\$ 20,485,189	\$ 21,570,914	\$ 23,219,646	\$ 27,069,558	\$ 24,717,187 \$	19,880,453	\$ 22,146,960	\$ 26,839,223 \$	\$ 26,402,094	\$29,025,430
<b>HBS Net Position</b>					Fiscal Year	ar				
ASSETS	2004	2002	2006	2007	2008	2009	2010	2011	2012	2013
Cash, Receivables, and Prepaids	\$ 85,226 \$	85,061	\$ 96,084	\$ 90,106 \$	\$ 94,213 \$	45,385 \$	48,532	\$ 52,196 \$	79,217	\$ 75,951
Investments at Fair Value	917,308	974,406	1,081,538	1,335,221	1,273,867	1,046,717	1,101,174	1,236,614	1,177,906	1,314,249
Total Assets	1,002,534	1,059,467	1,177,622	1,425,327	1,368,080	1,092,102	1,149,706	1,288,810	1,257,123	1,390,200
LIABILITIES										
Investments Payable	194,486	187,770	204,237	261,980	279,619	193,139	152,374	92,594	35,022	51,936
Other Payables		09	3,639	394	475	1,770	1,737	1,487	19,282	2,930
Total Liabilities	194,486	187,830	207,876	262,374	280,094	194,909	154,111	94,081	54,304	54,866
NET POSITION	\$ 808,048	\$ 871,637	\$ 969,746	\$ 1,162,953	\$ 1,087,986 \$	897,193	\$ 995,595	\$ 1,194,729 \$	\$ 1,202,819	\$ 1,335,334
LTD Net Position					Fiscal Year	aar				
ASSETS	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cash, Receivables, and Prepaids	\$ 7,641 \$	14,040	\$ 15,241	\$ 10,565	\$ 12,331 \$	11,998 \$	\$ 808′9	6,371 \$	7,172	\$ 7,254
Value	130,428	151,025	180,983	233,148	233,062	215,151	243,823	274,734	250,594	255,636
Total Assets	\$ 138,069	165,065	\$ 196,224	\$ 243,713	\$ 245,393 \$	227,149	\$ 250,631	\$ 281,105	\$ 257,766	\$ 262,890
LIABILITIES										
Investments Payable			•					•		
Other Payables	207	231	222	227	222	4,341	252	250	443	270
Total Liabilities	207	231	222	227	222	4,341	252	250	443	270
NET POSITION	\$ 137,862	164,834	\$ 196,002	\$ 243,486	\$ 245,171 \$	222,808	\$ 250,379	\$ 280,855 \$	\$ 257,323	\$ 262,620

## **Changes in Net Position** Last 10 Fiscal Years (Dollars in Thousands)

Retirement Change in Net Position					Fiscal Year	Year				
ADDITIONS	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Member Contributions	\$ 377,436	\$ 403,661	\$ 570,933	\$ 766,962	\$ 857,813	\$ 844,540	806'808 \$	\$ 833,287	\$ 905,968	\$ 948,004
Employer Contributions	297,770	318,311	477,472	663,544	759,482	754,044	763,099	786,662	852,167	911,300
Service/Transfers	113,944	141,932	125,751	107,548	92,226	72,436	73,973	70,812	53,659	72,023
(Loss)	3,096,779	1,720,991	2,126,272	4,105,644	(1,963,259)	(4,433,461)	2,872,297	5,406,714	322,870	3,393,599
Total Additions/ (Reductions)	3,885,929	2,584,895	3,300,428	5,643,698	(250,738)	(2,762,441)	4,518,277	7,097,475	2,134,664	5,324,926
DEDUCTIONS										
Retirement Benefits	1,238,966	1,406,547	1,538,992	1,650,818	1,768,219	1,888,931	2,031,119	2,166,779	2,297,947	2,406,899
Survivor Benefits	14,859	18,402	17,125	21,590	22,648	30,378	26,472	23,949	29,731	38,442
Refunds due to Separation	36,212	44,164	60,313	77,910	104,387	120,689	154,144	180,719	207,289	218,607
Transfers Out	2,336	4,581	5,129	10,117	177,176	5,706	11,455	6,256	5,024	725
Administration and Other	29,948	25,476	30,137	33,351	29,203	28,589	28,580	27,509	31,802	36,917
Total Deductions	1,322,321	1,499,170	1,651,696	1,793,786	2,101,633	2,074,293	2,251,770	2,405,212	2,571,793	2,701,590
NET CHANGE	2,563,608	1,085,725	1,648,732	3,849,912	(2,352,371)	(4,836,734)	2,266,507	4,692,263	(437,129)	2,623,336
Net position beginning of year	17,921,581	20,485,189	21,570,914	23,219,646	27,069,558	24,717,187	19,880,453	22,146,960	26,839,223	26,402,094
NET POSITION	\$20,485,189	\$21,570,914	\$23,219,646	\$ 27,069,558	\$ 24,717,187	\$ 19,880,453	\$ 22,146,960	\$ 26,839,223	\$ 26,402,094	\$ 29,025,430

## **Changes in Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

HBS Change in Net POSITION					Fiscal Year	ear				
ADDITIONS	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Employer Contributions	\$ 79,662	\$ 85,350	\$ 93,461	\$ 103,473	\$ 69,027 \$	\$ 06,490	\$ 868'65	51,048 \$	54,463 \$	57,154
Reimbursements	1	•	•	1	1	1	1	1	35,473	25,826
Net Investment Income (Loss)	114,906	68,750	86,587	174,348	(87,559)	(192,303)	128,258	240,994	13,439	146,737
Total Additions/ (Reductions)	194,568	154,100	180,048	277,821	11,468	(101,813)	187,651	292,042	103,375	229,717
DEDUCTIONS										
Health Premium Benefits	83,680	89,602	80,827	83,236	85,132	87,723	82,983	91,699	93,915	95,763
Administration and Other	946	606	1,112	1,378	1,303	1,257	1,266	1,209	1,370	1,439
Total Deductions	84,626	90,511	81,939	84,614	86,435	086'88	89,249	92,908	95,285	97,202
NET CHANGE	109,942	63,589	98,109	193,207	(74,967)	(190,793)	98,402	199,134	8,090	132,515
Net Position beginning of	698,106	808,048	871,637	969,746	1,162,953	1,087,986	897,193	995,595	1,194,729	1,202,819
NET POSITION	\$ 808,048	\$ 871,637	\$ 969,746	\$ 1,162,953	\$ 1,087,986 \$		995,595 \$	1.194,729 \$	1,202,819	\$1,335,334
LTD Change in Net POSITION					Fiscal Year	ear				
ADDITIONS	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Member Contributions	\$ 36,026	\$ 38,982	\$ 41,188	\$ 44,518	\$ 47,171 \$	47,213 \$	\$ 626'38	21,689 \$	\$ 866'02	20,881
Employer Contributions	36,026	38,982	41,188	44,518	47,171	47,213	35,939	21,689	20,998	21,336
Net Investment Income (Loss)	17,100	13,651	18,080	30,526	(21,623)	(47,726)	27,661	56,744	2,419	29,540
Total Additions/ (Reductions)	89,152	91,615	100,456	119,562	72,719	46,700	65,539	100,122	44,415	71,757
DEDUCTIONS										
Disability Benefits	926'85	62,183	969'99	69,221	68,284	65,781	69,148	66,124	65,190	63,613
Administration and Other	2,515	2,460	2,593	2,857	2,750	3,282	2,820	3,522	2,757	2,847
Total Deductions	61,491	64,643	69,288	72,078	71,034	69,063	71,968	69,646	67,947	66,460
NET CHANGE	27,661	26,972	31,168	47,484	1,685	(22,363)	27,571	30,476	(23,532)	5,297
Net Position beginning of year	110,201	137,862	164,834	196,002	243,486	245,171	222,808	250,379	280,855	257,323
NET POSITION	\$ 137,862	\$ 164,834	\$ 196,002	\$ 243,486	\$ 245,171 \$	222.808 \$	250.379 \$	280.855 \$	257.323 \$	262 620

## **Actual Contribution Rates Last 10 Fiscal Years**

Retirement <sup>1</sup> Contribution Rates				F	iscal `	Years				
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Member	5.20	5.20	6.90	8.60	9.10	8.95	9.00	9.60	10.50	10.90
Employer	4.10	4.10	5.77	7.55	8.05	7.99	8.34	9.01	9.87	10.25

HBS Contribution Rates				F	iscal `	Years				
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Employer	1.10	1.10	1.13	1.05	1.05	0.96	0.66	0.59	0.63	0.65

LTD Contribution Rates				F	iscal `	Years				
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Member	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.25	0.24	0.24
Employer	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.25	0.24	0.24

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

Source: Buck Consultants, LLC

# Members by Type of Benefit As of June 30, 2013

Retirement Monthly Benefit <sup>2</sup>			C	Options¹			
	1	2	3	4	5	6	7
Under \$300	10,253	258	373	745	2,417	208	443
\$300 - \$499	6,957	261	407	549	2,050	262	484
\$500 - \$999	13,813	574	1,019	1,062	4,004	774	1,420
\$1,000 - \$1,499	9,285	462	845	688	3,240	876	1,267
\$1,500 - \$1,999	6,528	307	531	502	2,605	807	1,090
\$2,000 & Over	18,711	573	1,292	1,636	8,474	2,713	3,666
Totals	65,547	2,435	4,467	5,182	22,790	5,640	8,370

<sup>&</sup>lt;sup>1</sup> OPTIONS KEY

- 1. Life Annuity
- 2. Life Annuity guaranteed 5 years
- 3. Life Annuity guaranteed 10 years
- 4. Life Annuity guaranteed 15 years
- 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

Source: Buck Consultants, LLC

HBS Monthly Benefits	Members
\$1-199	66,862
\$200-299	3,135
\$300-399	244
\$400 & Over	0
Total	70,241

LTD MONTHLY BENEFIT	MEMBERS
\$1-299	28
\$300-499	26
\$500-999	373
\$1,000-1,499	1,007
\$1,500-1,999	1,100
\$2,000 & over	1,909
TOTAL	4,443

Source: ASRS Pension Administration System Source: Sedgwick CMS

<sup>&</sup>lt;sup>2</sup> Most recent information available is 2012.

## **Average Benefit Payments Last 10 Fiscal Years**

	Years of Credited Service									
Retirement	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+
FISCAL YEAR 2003										
Average Monthly Benefit	\$ 149	\$ 328	\$ 695	\$1,068	\$1,571	\$2,312	\$2,957	\$3,314	\$3,535	\$4,335
Number of Retirees	1,555	9,744	12,811	10,568	11,103	10,838	6,477	1,373	203	25
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 <sup>1</sup>										
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

<sup>&</sup>lt;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 8 Fiscal Years**

HBS	Years of Credited Service					
	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

Note: Information prior to 2006 is not available.

Source: ASRS Pension Administration System

## **Average Benefit Payments Last 8 Fiscal Years**

LTD	
FISCAL YEAR 2006	
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	
Average Monthly Benefit	\$1,823
Number of LTD Participants	4,957
FISCAL YEAR 2009	
Average Monthly Benefit	\$1,886
Number of LTD Participants	4,672
FISCAL YEAR 2010	
Average Monthly Benefit	\$1,966
Number of LTD Participants	4,797
FISCAL YEAR 2011	
Average Monthly Benefit	\$1,931
Number of LTD Participants	4,785
FISCAL YEAR 2012	
Average Monthly Benefit	\$1,240
Number of LTD Participants	4,646
FISCAL YEAR 2013	
Average Monthly Benefit	\$1,244
Number of LTD Participants	4,443

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**

		2013			2004	
Participating Employer	COVERED EMPLOYEES	RANK	% OF MEMBERSHIP	COVERED EMPLOYEES	RANK	% OF MEMBERSHIP
Dept Of Administration	26,129	1	12.59%	29,996	1	14.61%
Maricopa County	8,937	2	4.31%	9,615	3	4.68%
Mesa Unified Dist 4	8,323	3	4.01%	8,094	4	3.94%
University Of Arizona	6,810	4	3.28%	7,143	6	3.48%
Tucson Unified Dist 1	6,737	5	3.25%	8,047	5	3.92%
Maricopa County Community College District	6,226	6	3.00%	5,118	8	2.49%
Arizona State University	5,162	7	2.49%	5,032	9	2.45%
Pima County	4,986	8	2.40%	6,047	7	2.95%
Gilbert Unified Dist 41	4,569	9	2.20%	4,122	10	2.01%
Chandler Unified Dist 80	4,079	10	1.97%			
Maricopa County School Office				13,928	2	6.78%
<sup>1</sup> All other	125,614		60.50%	108,175		52.69%
Total	207,572		100%	205,317		100.00%

<sup>1</sup> In 2013, "All Other" consisted of:							
ТҮРЕ	NUMBER	<b>EMPLOYEES</b>					
Public Schools	238	84,854					
Charter Schools	143	4,494					
Cities	78	16,640					
Counties	13	7,512					
Higher Education	10	5,626					
Other	93	6,488					
Total	575	125,614					

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

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