## 2010

Comprehensive Annual Financial Report for Fiscal Year Ended June 30,2010

## DELIVERING SERVICE WITH...

## P R <br> I

 D E
## OUR VISION

 OUR VALUESFor 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.

## 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. David Byers, Chair Mr. Thomas Connelly, Vice Chair

Report Prepared by the Staff of the Arizona State Retirement System

Paul Matson, Director


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## Arizona State Retirement System

A Component Unit of the State of Arizona


## Certificate of Achievement for Excellence in Financial Reporting



The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Arizona State Retirement System for its comprehensive annual financial report for the fiscal year ended June 30, 2009. This was the $21^{\text {st }}$ consecutive year that the Arizona State Retirement System has achieved this prestigious award.

# Public Pension Standards Award for Plan Funding and Administration 

# Public Pension Coordinating Council <br> Public Pension Standards Award For Funding and Administration 2010 

Presented to

## Arizona State Retirement System

In recognition of meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of
National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)


Program Administrator

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 2010. 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 6th consecutive year that the Arizona State Retirement System has received this prestigious award.

# Letter from the Chairman 

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December 3, 2010

The Honorable Jan Brewer
Governor of Arizona
State Capitol
1700 W. Washington St.
Phoenix, AZ 85007

Dear Governor Brewer:

On behalf of the Arizona State Retirement System (ASRS) Board of Trustees, I present you with the fifty-seventh Comprehensive Annual Financial Report of the Arizona State Retirement System. This report provides an in-depth review of the financial statements, investment information, actuarial calculations and statistical data of the Arizona State Retirement System for the fiscal year ended June 30, 2010.

The actuarial valuation performed by Buck Consultants, LLC is as of June 30, 2009 and indicates that the ASRS total plan had an actuarial funded status of 79.3 percent, down from 82.2 percent the previous year. The 2009 market value of assets funded status for ASRS total plan was 57.1 percent, down from 74.7 percent the prior year. The actuarial funded status is projected to decrease to 68.3 percent by the year 2019; however it is expected to increase to 83.6 percent by the year 2040. The market value of assets funded status is projected to be 68.5 percent in 2019 and increase to 83.6 percent by the year 2040. Please see detail on pages 11 and 12 for projected funded status for 2011-2040.

The contribution rate, as determined by actuarial analysis, is designed to ensure the ASRS fund remains adequate to meet current and future obligations to members. The actuarially recommended rate for fiscal year 2010-2011 is 9.85 percent for both the employer and employee, which includes 9.60 percent for the defined benefit pension plan and health insurance supplement and 0.25 percent for the long term disability plan. The contribution rate is projected to increase to 11.8 percent by 2019, which includes 11.5 percent for the defined benefit pension plan and the health insurance supplement and .3 percent for the long term disability plan. The contribution rate is projected to decrease to 8 percent in the year 2040, which includes 7.8 percent for the defined benefit pension plan and the health insurance supplement and .2 percent for the long term disability plan. Please see detail on page 13 for projected contribution rates for 2011-2040.

We continue to closely monitor our investments and review our asset allocation strategy, and will, when prudent, make adjustments to our portfolios.

## 2010 Comprehensive Annual Financial Report

## Letter from the Chairman

The ASRS continues to be engaged in program and policy review and, when appropriate, will again be seeking legislative or other changes to ensure the retirement system operates efficiently and effectively. This is an on-going process of program, policy and legislative review, and changes that have been implemented to date have resulted in significant liability reductions over the past six years.

The ASRS has also taken steps to combat high service demand and fiscal constraints with targeted investments in technology, online solutions, improved work flows, risk management and work environment in order to maintain staff morale, improve cost effectiveness and sustain member satisfaction.

The ASRS as a defined benefit pension plan is structured to provide a lifelong income and a range of additional benefits to our members when they retire, including a retiree medical and dental insurance plan and the premium benefit program which helps pay a portion of the insurance plans' premiums.

Lastly, I would like to note that the total membership of the ASRS, including active, inactive, disabled and retired members, reached 536,056 as of June 30, 2010. Also during that fiscal year, more than 105,000 retirees, survivors and disabled members received in excess of $\$ 2.2$ billion in benefits.

The ASRS Board is committed to prudent management of the Retirement System's assets for the benefit of our members. At the same time, we are aware of our responsibilities to the State of Arizona, its taxpayers, and our member employers. We appreciate the cooperation extended to it by the Governor's Office and the State Legislature, which enables and empowers us to meet the challenges we face in today's economic climate.

The Board pledges to continue to administer the affairs of the Arizona State Retirement System in the most competent and efficient manner possible.

Respectfully submitted,


Mr. David Byers
Board Chair
Arizona State Retirement System

# Letter of Transmittal from the Director 

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Director

December 3, 2010

Mr. David Byers, Chair
Arizona State Retirement System Board of Trustees
3300 North Central Avenue, 14th Floor
Phoenix, Arizona 85012

Dear Mr. Byers:

On the behalf of the ASRS staff, I am pleased to present the fifty-seventh Comprehensive Annual Financial Report of the Arizona State Retirement System (ASRS), a component unit of the State of Arizona, for the fiscal year ended June 30, 2010.

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.

Heinfeld, Meech \& Co., P.C. has issued an unqualified ("clean") opinion on the ASRS financial statements for the year ended June 30, 2010. 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.

## Letter of Transmittal from the Director

At June 30, 2010, total ASRS membership, including active, inactive, disabled and retired members is 536,056. There are 711 employers participating in the ASRS, including school districts, charter schools, state colleges and universities, and local, county and state governments.

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. Active members receive long-term disability insurance coverage equal to two-thirds of pay at the time of disablement.

During FY 2009-10, more than 105,000 retired annuitants, their survivors, and disabled members received in excess of $\$ 2.2$ billion in benefits. As of June 30, 2010 there were 41,488 retired members and their families enrolled in the ASRS-sponsored medical program and 34,253 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. During FY 2009-10, the following ASRS Board Trustees were appointed:

- Dr. Dennis L. Hoffman, appointed as a representative of educators; term to expire on January 21, 2013.
- Mr. Thomas Manos, appointed as a member at large; term to expire on January 16, 2012.
- Mr. Kevin McCarthy, appointed as a representative of the public; term to expire on January 21, 2013.


## Major I nitiatives for Fiscal Year 2009-10

## Investments:

- Modified ASRS Strategic Asset Allocation Policy (SAA) including the primary changes of a reduction in U.S. Equities, a new addition of an Inflation-linked asset category with a 3 percent allocation to Commodities, a 2 percent increase in targeted Private Equity investments, a more stratified strategic sub-asset class allocation within fixed income and non-U.S. Equities and the continued ability to opportunistically invest in Absolute Return and Risk Parity investment strategies.
- Funded four (4) new Opportunistic Fixed Income mandates with an aggregate commitment of $\$ 600$ million designed to tactically take advantage of available credit mortgage market dislocation opportunities.
- Selected State Street Bank \& Trust as ASRS custody bank to provide services including custody of assets, benefit payments, securities lending, fund accounting and compliance reporting.
- Selected Meketa Investment Group to serve as the primary consultant for ASRS Private Equity Program.


## Letter of Transmittal from the Director

## Benefits:

- Automated the work processes for rescinds/reverts and transfers out. Members will see a service enhancement as their request to rescind their retirement, change a benefit option or transfer to another in-state government retirement system are processed in a more timely manner.
- ASRS statutes governing the Defined Benefit Plan design were modified to mitigate the upward pressure on the contribution rate and help ensure the longevity of the Trust Fund.
o Modified the Average Monthly Compensation used in a retiring member's retirement benefit calculation 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.
o Modified one of the Normal Retirement Date definitions from 80 to 85 points (age + years of service) for a member whose membership commences on or after July 1, 2011.
o Eliminated Employer contribution refunds 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 elimination, in which case the member will receive the current refund vesting schedule.


## Administration:

- Automated the member enrollment process. Employers and members can now complete the process through the ASRS website. As the volume of paper enrollment forms decreases, the ASRS will be able to correspondingly reduce its resources dedicated to data entry and imaging of these forms. Current volume is more than 50,000 pieces annually.
- Developed Webinars to replace onsite and offsite employer conferences. Webinars will reduce travel costs for ASRS staff and will also increase ASRS staff productivity by eliminating time spent in travel. These improvements will enable the ASRS to serve an increasing amount of members without an increase in staff. Employers will experience service enhancements as conferences "come to them" on their computer, and they no longer have to travel to the ASRS.


## I nvestment 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 104 externally managed and 6 internally managed portfolios, which are diversified in U.S. equities, U.S. fixed income, international equities, real estate, private equity and opportunistic investments.

## Letter of Transmittal from the Director

After deducting investment expenses, the ASRS obtained the following one, three, five, ten year and inception net rates of return for periods ended June 30, 2010:

## Annualized Rates of Return <br> (Retirement \& Health Benefit Supplement)

| 1 Year 3 Year | 5 Year | 10 Year | Inception <br> (June 30, 1975) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ASRS Total Fund | $14.9 \%$ | $-4.7 \%$ | $2.3 \%$ | $2.3 \%$ | $9.6 \%$ |

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. Oversight responsibilities reside with the ASRS Board. 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, 2009, the actuarial value of total plan assets (defined benefit and health insurance) was $\$ 28.3$ billion and the actuarial accrued liability was $\$ 35.7$ billion. The unfunded actuarial accrued liability of $\$ 7.4$ billion results in an actuarial funding ratio of 79.3 percent for the total plan. The market value of total plan assets (defined benefit and health insurance) was $\$ 20.4$ billion and the market value of assets accrued liability was $\$ 35.7$ billion. The unfunded market value of assets accrued liability of $\$ 15.3$ billion results in a market value of assets funding ratio of 57.1 percent for the total plan. The change in actuarial funding percentage from last year's 82.2 percent and the change in market value of assets funding percentage from last year's 74.7 percent is primarily due to recognition of investment losses in fiscal years 2002 and 2003 and the investment loss of fiscal years 2008 and 2009.

## Letter of Transmittal from the Director

The actuarial funding ratios for the individual components of the total plan as of June 30, 2009 and the projected actuarial funding ratios for the period ending June 30, 2010 for the individual components of the total plan are as follows:

|  | Funded Status as of J une 30 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2009 | 2010* | 2009 | 2010* |
| BASED ON: | ACTUARIAL VALUE OF ASSETS | ACTUARIAL VALUE OF ASSETS | MARKET VALUE OF ASSETS | MARKET VALUE OF ASSETS |
| Total Plan (Retirement \& HBS) | 79.3\% | 76.7\% | 57.1\% | 61.6\% |
| Plan Retirement | 79.0\% | 76.4\% | 56.9\% | 61.4\% |
| Plan Health Supplement (HBS) | 87.1\% | 84.2\% | 61.7\% | 67.1\% |
| LTD Program | 65.4\% | 66.9\% | 46.8\% | 52.5\% |
| System | 77.4\% | 80.5\% | 77.4\% | 80.5\% |

* Estimates

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 is presented in the Notes to the Financial Statements.

## Cost Saving I nitiatives

In order to both increase the funded status of the pension plan as well as mitigate future increases in contribution rates, the ASRS has been engaged in significant program and policy review. While this is an on-going process, program, policy and legislative initiatives that have been implemented are estimated to have reduced total contributions to the ASRS by approximately $\$ 308$ million per year, which is equivalent to $\$ 4.8$ billion in liability savings for the group of all current employees, or approximately $\$ 7.5$ 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 to both employee and employers by an average of approximately 3.13 percent in total each year.

## Letter of Transmittal from the Director

## Estimated I mpact of ASRS Cost Reduction I nitiatives

As of June 30, 2009 Valuation Date (Amount in Millions of Dollars)

| Action | Reduction in Total Contribution Rate | Annual Reduction in Total Contribution Amount |  | Present Value of Savings on Closed Group Basis |  | Present Value of Savings on Open Group ( No Growth) Basis |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COST SAVINGS INITIATIVES CONTAINED IN CURRENT VALUATION \& REFLECTED IN LOWER CURRENT CONTRIBUTION RATE |  |  |  |  |  |  |  |
| Change basis for service purchases from normal cost to actuarial present value (APV) | 0.60\% | \$ | 59.06 | \$ | 908.61 | \$ | 2,062.42 |
| Correction of Permanent Benefit Increase (PBI) reserve | 0.04\% |  | 3.78 |  | 74.72 |  | 74.72 |
| Decrease interest credited on withdrawn contributions from 8\% to 4\% | 0.27\% |  | 26.67 |  | 434.30 |  | 860.31 |
| Sub-Total, Savings in Current Valuation | 0.91\% | \$ | 89.51 | \$ | 1,417.63 | \$ | 2,997.45 |
| COST SAVINGS INITIATIVES CONTAINED IN FUTURE EXPERIENCE |  |  |  |  |  |  |  |
| Long Term Disability (LTD) program design changes | 0.02\% | \$ | 2.41 | \$ | 41.82 | \$ | 59.67 |
| Reimbursements for early retirement incentives | 0.18\% |  | 17.62 |  | 327.09 |  | 457.73 |
| Increase interest rate on payroll deduction agreements (PDAs) from 0\% to 8\% | 0.16\% |  | 15.97 |  | 294.60 |  | 413.08 |
| Pop-up restrictions | 0.41\% |  | 40.37 |  | 658.93 |  | 958.36 |
| Rescinding modified Deferred Retirement Option Plan (mDROP) | 0.50\% |  | 49.13 |  | 802.24 |  | 1,166.59 |
| LTD changes to offsets and pre-existing condition period | 0.15\% |  | 14.42 |  | 158.45 |  | 378.20 |
| Recapture of unclaimed monies | 0.01\% |  | 0.63 |  | 9.74 |  | 14.44 |
| Eliminate 80\% cap on retirement benefits | 0.04\% |  | 4.25 |  | 51.62 |  | 83.11 |
| Require 20/20 Rule for dual employment situations | 0.04\% |  | 3.93 |  | 53.65 |  | 53.65 |
| Eliminate enhanced refunds | 0.16\% |  | 16.20 |  | 346.47 |  | 346.47 |
| Replace Rule of 80 with Rule of 85 | 0.30\% |  | 29.34 |  | 290.26 |  | 290.26 |
| Replace 36-month average salary with 60-month | 0.25\% |  | 24.29 |  | 316.65 |  | 316.65 |
| Sub-Total, Savings Emerging in Experience | 2.22\% |  | 218.56 |  | 3,351.52 |  | 4,538.21 |
| GRAND TOTAL | 3.13\% | \$ | 308.07 | \$ | 4,769.15 | \$ | 7,535.66 |

## Budget Savings

The ASRS planned and implemented strategies to reduce our agency expenditures for FY 2010. As a result, the ASRS realized reductions to the operating budget totaling $\$ 350,000$.

## Letter of Transmittal from the Director

## Funded Status and Contribution Rate Projections

Although the ASRS funds are a well-diversified and professionally managed portfolio of investments, they incurred significant losses in the years ended June 30, 2008 and June 30, 2009. These losses will 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 the next seven years.

The projected actuarial funding status and projected market value of assets funding status through 2040 are as follows:

| Fiscal Year | Projected Funded Status Actuarial Value of Assets |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Plan | Health Benefit Supplement | Combined Plan and HBS | Long Term Disability |
| 2011 | 75.9\% | 83.0\% | 76.2\% | 67.0\% |
| 2012 | 73.2\% | 78.4\% | 73.4\% | 65.0\% |
| 2013 | 72.0\% | 76.8\% | 72.2\% | 64.0\% |
| 2014 | 71.4\% | 75.2\% | 71.5\% | 63.0\% |
| 2015 | 70.5\% | 73.6\% | 70.6\% | 62.0\% |
| 2016 | 69.8\% | 72.5\% | 69.9\% | 62.0\% |
| 2017 | 69.1\% | 71.0\% | 69.2\% | 62.0\% |
| 2018 | 68.2\% | 69.2\% | 68.2\% | 62.0\% |
| 2019 | 68.2\% | 69.0\% | 68.3\% | 62.0\% |
| 2020 | 69.7\% | 69.8\% | 69.7\% | 66.0\% |
| 2021 | 70.9\% | 70.5\% | 70.9\% | 69.0\% |
| 2022 | 72.1\% | 71.1\% | 72.0\% | 70.0\% |
| 2023 | 73.1\% | 71.7\% | 73.1\% | 72.0\% |
| 2024 | 74.1\% | 72.3\% | 74.0\% | 73.0\% |
| 2025 | 75.0\% | 72.8\% | 75.0\% | 74.0\% |
| 2026 | 75.9\% | 73.2\% | 75.8\% | 75.0\% |
| 2027 | 76.7\% | 73.6\% | 76.6\% | 76.0\% |
| 2028 | 77.5\% | 74.0\% | 77.4\% | 78.0\% |
| 2029 | 78.2\% | 74.3\% | 78.1\% | 79.0\% |
| 2030 | 78.9\% | 74.6\% | 78.7\% | 79.0\% |
| 2031 | 79.5\% | 74.8\% | 79.3\% | 78.0\% |
| 2032 | 80.1\% | 75.0\% | 79.9\% | 78.0\% |
| 2033 | 80.7\% | 75.2\% | 80.5\% | 78.0\% |
| 2034 | 81.2\% | 75.3\% | 81.0\% | 78.0\% |
| 2035 | 81.7\% | 75.4\% | 81.5\% | 78.0\% |
| 2036 | 82.2\% | 75.4\% | 82.0\% | 79.0\% |
| 2037 | 82.6\% | 75.5\% | 82.4\% | 79.0\% |
| 2038 | 83.0\% | 75.5\% | 82.8\% | 79.0\% |
| 2039 | 83.5\% | 75.5\% | 83.2\% | 80.0\% |
| 2040 | 83.8\% | 75.4\% | 83.6\% | 80.0\% |

## Letter of Transmittal from the Director

| Fiscal Year | Projected Funded Status Market Value of Assets |  |  | Long Term Disability |
| :---: | :---: | :---: | :---: | :---: |
|  | Plan | Health Benefit Supplement | Combined Plan and HBS |  |
| 2011 | 61.0\% | 66.0\% | 61.2\% | 52.0\% |
| 2012 | 61.5\% | 65.8\% | 61.7\% | 53.0\% |
| 2013 | 62.3\% | 66.4\% | 62.4\% | 53.0\% |
| 2014 | 63.2\% | 66.6\% | 63.4\% | 55.0\% |
| 2015 | 64.2\% | 66.8\% | 64.3\% | 56.0\% |
| 2016 | 65.2\% | 67.6\% | 65.3\% | 58.0\% |
| 2017 | 66.2\% | 67.8\% | 66.3\% | 59.0\% |
| 2018 | 67.3\% | 68.3\% | 67.4\% | 61.0\% |
| 2019 | 68.5\% | 69.3\% | 68.5\% | 63.0\% |
| 2020 | 69.7\% | 69.8\% | 69.7\% | 66.0\% |
| 2021 | 70.9\% | 70.5\% | 70.9\% | 69.0\% |
| 2022 | 72.1\% | 71.1\% | 72.0\% | 70.0\% |
| 2023 | 73.1\% | 71.7\% | 73.1\% | 72.0\% |
| 2024 | 74.1\% | 72.3\% | 74.0\% | 73.0\% |
| 2025 | 75.0\% | 72.8\% | 75.0\% | 74.0\% |
| 2026 | 75.9\% | 73.2\% | 75.8\% | 75.0\% |
| 2027 | 76.7\% | 73.6\% | 76.6\% | 76.0\% |
| 2028 | 77.5\% | 74.0\% | 77.4\% | 78.0\% |
| 2029 | 78.2\% | 74.3\% | 78.1\% | 79.0\% |
| 2030 | 78.9\% | 74.6\% | 78.7\% | 79.0\% |
| 2031 | 79.5\% | 74.8\% | 79.3\% | 78.0\% |
| 2032 | 80.1\% | 75.0\% | 79.9\% | 78.0\% |
| 2033 | 80.7\% | 75.2\% | 80.5\% | 78.0\% |
| 2034 | 81.2\% | 75.3\% | 81.0\% | 78.0\% |
| 2035 | 81.7\% | 75.4\% | 81.5\% | 78.0\% |
| 2036 | 82.2\% | 75.4\% | 82.0\% | 79.0\% |
| 2037 | 82.6\% | 75.5\% | 82.4\% | 79.0\% |
| 2038 | 83.0\% | 75.5\% | 82.8\% | 79.0\% |
| 2039 | 83.5\% | 75.5\% | 83.2\% | 80.0\% |
| 2040 | 83.8\% | 75.4\% | 83.6\% | 80.0\% |

## Letter of Transmittal from the Director

The Projected Contribution Rates through 2040 are as follows:

|  | Projected Contribution Rates |  |  |
| :---: | :---: | :---: | :---: |
| Fiscal | Realth Benefit <br> Year | Plan <br> Contribution <br> Rate | Long Term <br> Contribution <br> Rate |
| 2011 | $9.0 \%$ | $0.6 \%$ | Contribution <br> Rate |
| 2012 | $9.5 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2013 | $10.2 \%$ | $0.6 \%$ | $0.25 \%$ |
| 2014 | $10.3 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2015 | $10.5 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2016 | $10.6 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2017 | $10.7 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2018 | $10.8 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2019 | $10.8 \%$ | $0.7 \%$ | $0.30 \%$ |
| 2020 | $10.7 \%$ | $0.7 \%$ | $0.30 \%$ |
| 2021 | $10.5 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2022 | $10.2 \%$ | $0.7 \%$ | $0.25 \%$ |
| 2023 | $10.0 \%$ | $0.6 \%$ | $0.25 \%$ |
| 2024 | $9.8 \%$ | $0.6 \%$ | $0.25 \%$ |
| 2025 | $9.6 \%$ | $0.6 \%$ | $0.25 \%$ |
| 2026 | $9.4 \%$ | $0.6 \%$ | $0.25 \%$ |
| 2027 | $9.2 \%$ | $0.6 \%$ | $0.25 \%$ |
| 2028 | $9.0 \%$ | $0.5 \%$ | $0.25 \%$ |
| 2029 | $8.8 \%$ | $0.5 \%$ | $0.20 \%$ |
| 2030 | $8.6 \%$ | $0.5 \%$ | $0.20 \%$ |
| 2031 | $8.5 \%$ | $0.5 \%$ | $0.20 \%$ |
| 2032 | $8.3 \%$ | $0.5 \%$ | $0.20 \%$ |
| 2033 | $8.2 \%$ | $0.5 \%$ | $0.20 \%$ |
| 2034 | $8.1 \%$ | $0.4 \%$ | $0.20 \%$ |
| 2035 | $7.9 \%$ | $0.4 \%$ | $0.20 \%$ |
| 2036 | $7.8 \%$ | $0.4 \%$ | $0.20 \%$ |
| 2037 | $7.7 \%$ | $0.4 \%$ | $0.20 \%$ |
| 2038 | $7.6 \%$ | $0.4 \%$ | $0.20 \%$ |
| 2039 | $7.5 \%$ | $0.20 \%$ |  |

## 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, 2009. The ASRS has received this prestigious award in each of the last 21 years.

## Letter of Transmittal from the Director

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 only for one year. 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.

In addition, the Public Pension Coordinating Council awarded a Pension Standards Award for 2010 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. Those areas are: comprehensive benefits program, funding adequacy, actuarial, audit, investments and communications. The Pension Standards Award is valid for one year. This is the sixth year the ASRS has received this award.

## Acknowledgements

This report represents the culmination of hours of hard work by the ASRS General Accounting, Investment Management Division and External Affairs 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.

I would like to express my 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 Mason, Director

Organizational Chart


## ASRS Board of Trustees



## Executive Staff



# Chief Outside Professional Services 

ACTUARY

Buck Consultants, LLC
Phoenix, AZ

## LONG TERM DI SABI LITY BENEFITS

Sedgwick CMS Company
Calabasas, CA

## CUSTODI AL BANK

BNY Mellon (July - September 2009)
Pittsburgh, PA

State Street Bank and Trust Co. (October 2009 - Present)
Boston, MA
I NDEPENDENT AUDITORS
Heinfeld, Meech \& Co., P.C.
Tucson, AZ

## GENERAL I NVESTMENT CONSULTANT

NEPC, LLC
Cambridge, MA

## PRIVATE REAL ESTATE CONSULTANT

The Townsend Group
Cleveland, OH

## PRIVATE EQUITY CONSULTANT

Meketa Investment Group
Boston, MA

## I NVESTMENT MANAGERS

Investment Managers are listed in the "Schedule of Broker Commissions"
See Page 82-84

## Summary of 2010 Retirement Legislation

The 49th Legislature, Second Regular Session adjourned April 29, 2010. Below is a summary of the only bill in 2010 that was passed into law that effects ASRS members and employers. To view legislation in its entirety, visit the Arizona State Legislature's website at www.azleg.gov. The bill listed below is effective on the general effective date (July 29, 2010), but some provisions will take effect later.

## House Bill 2389 - ASRS; plan design; refunds

(Laws 2010, Chapter 50)

## Benefit Formula

- Modifies one of the Normal Retirement Date definitions from 80 to 85 points (age + years of service) for a member whose membership begins on or after July 1, 2011. It also modifies the Early Retirement decrements to conform to the 85 point normal retirement for a member whose membership commences on or after July 1, 2011.
- Modifies the Average Monthly Compensation definition used in a retiring member's retirement benefit calculation 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.


## Withdrawal of Account

- Eliminates refunds of Employer contributions made on behalf of a member whose membership begins on or after July 1, 2011 when the member terminates employment and chooses to withdraw their account balance. This does not apply to members terminated due to an Employer Reduction in Force or position elimination, in which case the current ASRS vesting schedule will apply.


## Long Term Disability Program Appeals

- Permits a person appealing an ASRS decision under the LTD Program (usually a decision of an Administrative Law Judge) to request that the ASRS Board hear the appeal in Executive Session, rather than in a Public Hearing. The request must be made at least 48 hours in advance. Further, 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. This provision will become effective on the legislature's general effective date (July 29, 2010).


## Summary of 2010 Retirement Legislation

## Health Insurance Supplement (Premium Benefit)

- Removes the ability of a retiree to secure individual health insurance coverage and receive the health insurance supplement. After July 29, 2010, in order to receive the health insurance supplement, the retiree must be enrolled in either the ASRS’s Retiree Health Insurance program or an Employer’s Group Health Insurance. This provision will become effective on the legislature’s general effective date (July 29, 2010).


## Miscellaneous

- Makes changes to conform to federal law.
- Makes an administrative appropriation to ASRS.


# Arizona State Retirement System 

A Component Unit of the State of Arizona


## Financia Section

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## 2010 Comprehensive Annual Financial Report

# I ndependent Auditors' Report 

HEINFELD, MEECH \& CO., P.C.
CERTIFIED PUBLIC ACCOUNTANTS

10120 N. Oracle Road
Tucson, Arizona 85704
Tel (520) 742-2611
Fax (520) 742-2718

The Honorable Janice K. Brewer, Governor
State of Arizona

Board of Trustees
Arizona State Retirement System

We have audited the accompanying Statement of Plan Net Assets of the funds of the Arizona State Retirement System (ASRS), a component unit of the State of Arizona, as of and for the year ended June 30, 2010, and the related Statement of Changes in Plan Net Assets of the funds for the year then ended. These basic financial statements are the responsibility of ASRS's management. Our responsibility is to express an opinion on these financial statements based on our audit. The comparative totals as of and for the year ended June 30, 2009, presented in the basic financial statements are included for additional analysis only. Our audit report dated November 25, 2009 expressed an unqualified opinion on these statements; however, we have not performed any auditing procedures on this information since the date of our report.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets of the funds of the Arizona State Retirement System, a component unit of the State of Arizona, as of June 30, 2010, and the changes in net assets of the funds for the year then ended in conformity with accounting principles generally accepted in the United States of America.

As described in Note 1, the Arizona State Retirement System implemented the provisions of the Governmental Accounting Standards Board (GASB) Statement No. 53, Accounting and Financial Reporting for Derivative Instruments, for the year ended June 30, 2010, which represents a change in accounting principle.

## I ndependent Auditors' Report

In accordance with Government Auditing Standards, we have also issued our report dated December 2, 2010, on our consideration of the Arizona State Retirement System's 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 the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be considered in assessing the results of our audit.

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 24 through 30 and the Schedule of Funding Progress and Schedule of Employer Contributions on pages 52 and 53 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic 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 basic financial statements, and other knowledge we obtained during our audit of the basic 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.

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the ASRS's financial statements as a whole. The accompanying supplementary information such as the Introductory Section, Additional Supplementary Information, Investment Section, Actuarial Section, and Statistical Section are presented for purposes of additional analysis and are not a required part of the financial statements. The Additional Supplementary Information, as listed in the table of contents under the Financial Section, is the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. The Additional Supplementary 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 Section, Investment Section, Actuarial Section, and Statistical Section have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

## Helufeld, meech \& CO, P.C.

HEINFELD, MEECH \& CO., P.C.
Certified Public Accountants
December 2, 2010

# Management's Discussion and Analysis 

This section presents Management’s Discussion and Analysis (MD\&A) of the Arizona State Retirement System's (ASRS) plan net assets and changes in plan net assets for the fiscal year ended June 30, 2010. 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's 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 2010, ASRS assets increased primarily as the result of positive conditions in the domestic and international equity markets. As a result, over this period the ASRS's investments out-performed the assumed 8 percent actuarial investment rate of return.

- The ASRS rate of return on investments for FY 2010 was 14.9 percent compared to -18.1 percent for FY 2009. (Note: Return on Private Equity Investments have not been included in Total Fund Performance for FY 2009. There was no material effect on ASRS.) The increase in the rate of return reflects the positive conditions in the global securities markets during the fiscal year 2010.
- The ASRS combined total net assets held in trust for pension benefits increased by 11.4 percent at FYE June 30, 2010 compared to FYE 2009. The increase in the combined total net assets is primarily due to positive returns in the global securities markets during the fiscal year.
- The ASRS paid $\$ 2.21$ billion in pension, disability, health insurance and survivor benefits during FY 2010 compared to $\$ 2.07$ billion in FY 2009. The
6.8 percent increase is due to an increase in retirements as a result of the economic conditions during the year.
- As of June 30, 2009, the most recent actuarial valuation, the Retirement and Health Benefit Supplement Funds combined were 79.3 percent funded. This compares to a combined funding ratio of 82.2 percent as of June 30, 2008. The change in funding percentage is primarily due to continued recognition of investment losses for fiscal years 2002 and 2003, as well as to the investment losses in fiscal years 2008 and 2009.


## 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) other supplementary schedules. Collectively, this information presents the combined net assets 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, 2010. This financial information also summarizes the combined changes in net assets held in trust for pension benefits for the year then ended. The information available in each of these sections is briefly summarized as follows:

1) Fund financial statements. For the fiscal year ended June 30, 2010, financial statements are presented for the funds administered by the ASRS. These fiduciary funds are held for the benefit of the ASRS members.

# Management's Discussion and Analysis 

- The Combined Statement of Plan Net Assets is presented as of June 30, 2010 with combined total comparative information as of June 30, 2009. 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 Assets is presented for the year ended June 30, 2010 with comparative information for the year ended June 30, 2009. This statement reflects the changes in resources available to pay benefits to retirees and other beneficiaries for year.

2) Notes to the Basic Financial Statement. The notes to the Basic Financial Statements provide additional information that 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 33-51 of this report.
3) Required Supplementary Information. The required supplementary information consists of two 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 Assets and Changes in Net Assets for the ASRS Plan and System retirement programs, detailed information about additions and deductions, administrative expenses incurred by the ASRS administered funds and professional investment income and expenses by manager. 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 and 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 Assets. The total ASRS net assets held in trust for benefits at June 30, 2010 were $\$ 23.4$ billion, an 11.4 percent increase from $\$ 21.0$ billion at June 30, 2009. The increase in net assets is primarily due to positive returns in the global securities markets during the fiscal year. The retirement fund net assets were $\$ 22.1$ billion compared to $\$ 19.9$ billion last year, an 11.1 percent increase. The HBS fund net assets were \$995.6 million at year end compared to $\$ 897.2$ million at FYE 2009, an 11 percent increase. The LTD fund net assets were $\$ 250.4$ million at year end compared to $\$ 222.8$ million last year, a 12.4 percent increase.

Net investments totaled $\$ 23.4$ billion at FYE 2010 compared to $\$ 21.0$ billion at FYE 2009. The 11.4 percent increase is primarily due to positive returns in the global securities markets. Cash, receivables and prepaids of $\$ 1.03$ billion reflects an 11.4 percent increase compared to last year's $\$ 925.3$ million and is primarily due to an increase in forward contracts receivables. Liabilities of $\$ 3.60$ billion represents a decrease of 21.1 percent compared to $\$ 4.56$ billion last year. This is primarily due to a decrease payable for securities lending collateral.

## 2010 Comprehensive Annual Financial Report

## Management's Discussion and Analysis

Changes in Net Assets. For the 2010 fiscal year, employer and member contributions totaled $\$ 1.70$ billion, a 4.5 percent decrease from the 2009 fiscal year contributions of $\$ 1.78$ billion. This decrease is due to an overall decrease in the number of active contributing members, which is due to an overall decrease in staffing levels throughout all State agencies.

For FY 2010, the ASRS recognized net investment income of $\$ 3.03$ billion which compares to net investment loss of $\$ 4.67$ billion in the previous year. This 164.9 percent increase is due to positive returns in the global equity markets during the fiscal year.

Deductions from the ASRS net assets held in trust for benefits consist primarily of pension, disability, health insurance and survivor benefits, member refunds and administrative expenses. For the 2010 fiscal year, pension, disability, health insurance and survivor benefits totaled $\$ 2.21$ billion, an increase of 6.8 percent over the $\$ 2.07$
billion paid during FY 2009. Pension payments totaled $\$ 2.1$ billion in FY 2010 compared to $\$ 1.9$ billion in the previous year. The 10.5 percent increase is explained by an increase in retirees. Refunds and transfers to other plans totaled $\$ 165.6$ million dollars in 2010, a 31 percent increase from the $\$ 126.4$ million paid out in 2009. The increase is due primarily to a 28 percent increase in refunds due to the current economic environment. For FY 2010, the cost of administering the ASRS benefits totaled $\$ 32.3$ million, an increase of 2.9 percent from the $\$ 31.4$ million paid in FY 2009. This increase is primarily due to an increase in payroll expense due to the accrual of an additional payroll period in FY 2010.

The following tables show the principal ASRS net assets and changes in net assets for fiscal years 2010 and 2009, in thousands of dollars:

| Net Assets | $\mathbf{2 0 1 0}$ |  |  |  |  |  | $\mathbf{2 0 0 9}$ | Change | \% Change |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: | :---: | :---: | :---: |
| ASSETS |  |  |  |  |  |  |  |  |  |
| Cash, receivables and prepaids | $\$ 1,030,361$ | $\$$ | 925,271 | $\$$ | 105,090 |  |  |  |  |
| Investments at fair value | $23,604,607$ | $21,219,032$ | $2,385,575$ | $11.4 \%$ |  |  |  |  |  |
| Security lending | $2,360,532$ | $3,422,623$ | $(1,062,091)$ | $-31.0 \%$ |  |  |  |  |  |
| Total assets | $\mathbf{2 6 , 9 9 5 , 5 0 0}$ | $\mathbf{2 5 , 5 6 6 , 9 2 6}$ | $\mathbf{1 , 4 2 8 , 5 7 4}$ | $\mathbf{5 . 6 \%}$ |  |  |  |  |  |
| LIABILITIES |  |  |  |  |  |  |  |  |  |
| Payables for investments | $1,242,034$ | $1,143,849$ | 98,185 | $8.6 \%$ |  |  |  |  |  |
| Securities lending | $2,360,532$ | $3,422,623$ | $(1,062,091)$ | $-31.0 \%$ |  |  |  |  |  |
| Total Liabilities | $\mathbf{3 , 6 0 2 , 5 6 6}$ | $\mathbf{4 , 5 6 6 , 4 7 2}$ | $\mathbf{( 9 6 3 , 9 0 6 )}$ | $\mathbf{- 2 1 . 1 \%}$ |  |  |  |  |  |
| TOTAL NET ASSETS | $\mathbf{\$ 2 3 , 3 9 2 , 9 3 4}$ | $\mathbf{\$ 2 1 , 0 0 0 , 4 5 4}$ | $\mathbf{\$}$ | $\mathbf{2 , 3 9 2 , 4 8 0}$ | $\mathbf{1 1 . 4 \%}$ |  |  |  |  |

## Management's Discussion and Analysis

| Change in Net Assets | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ | Change | \% Change |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| ADDITIONS (REDUCTIONS) |  |  |  |  |  |
| Employee contributions | $\$$ | 844,847 | $\$$ | 891,753 | $\$$ |
| Employer contributions | $(46,906)$ | $-5.3 \%$ |  |  |  |
| Service credit purchase and transfers in | 858,431 | 891,747 | $(33,316)$ | $-3.7 \%$ |  |
| Investment and security lending income (loss) | 73,973 | 72,436 | 1,537 | $2.1 \%$ |  |
| Investment and security lending expense | $3,144,567$ | $(4,542,158)$ | $7,686,725$ | $169.2 \%$ |  |
| Total additions (reductions) | $(116,351)$ | $(131,332)$ | 14,981 | $11.4 \%$ |  |
| DEDUCTIONS | $\mathbf{4 , 8 0 5 , 4 6 7}$ | $\mathbf{( 2 , 8 1 7 , 5 5 4 )}$ | $\mathbf{7 , 6 2 3 , 0 2 1}$ | $\mathbf{2 7 0 . 6 \%}$ |  |
| Retirement and disability benefits |  |  |  |  |  |
| Survivor benefits | $2,188,250$ | $2,042,435$ | 145,815 | $7.1 \%$ |  |
| Refunds and transfers | 26,472 | 30,378 | $(3,906)$ | $-12.9 \%$ |  |
| Administration and other | 165,599 | 126,395 | 39,204 | $31.0 \%$ |  |
| Total deductions | 32,666 | 33,128 | $(462)$ | $-1.4 \%$ |  |
| NET CHANGE | $\mathbf{2 , 4 1 2 , 9 8 7}$ | $\mathbf{2 , 2 3 2 , 3 3 6}$ | $\mathbf{1 8 0 , 6 5 1}$ | $\mathbf{8 . 1 \%}$ |  |
| Net assets beginning of year | $2,392,480$ | $(5,049,890)$ | $7,442,370$ | $\mathbf{1 4 7 . 4 \%}$ |  |
| Net assets end of year | $21,000,454$ | $26,050,344$ | $(5,049,890)$ | $-19.4 \%$ |  |

Net Assets by Fund - June 30, 2010


## 2010 Comprehensive Annual Financial Report

## Management's Discussion and Analysis

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, 2009.

- At June 30, 2009 the total funded status of the ASRS retirement and health benefit supplement funds decreased to 79.3 percent from 82.2 percent at FYE 2008. At FYE 2009 ASRS actuarial liabilities exceeded actuarial assets for the retirement and health benefit supplement funds by $\$ 7.4$ billion. This compares to an excess of actuarial liabilities over actuarial assets of $\$ 6.0$ billion at FYE 2008. This decrease in funded status is related primarily to recognition of investment losses in fiscal years 2002 and 2003 and the investment losses in fiscal years 2008 and 2009.

Investments. During the FY 2009, the ASRS funds remained broadly diversified with investments in domestic and international equities, domestic fixed income, real estate, private equity, opportunistic and cash equivalent securities. 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 30 percent of ASRS assets may be invested in foreign securities.

The Retirement and HBS funds are combined in a commingled investment pool. 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 in a separate fund.

At June 30, 2010, the ASRS held net investments of \$23.4 billion, an increase of $\$ 2.4$ billion from FY 2009. The increase in total investments is primarily due to positive conditions in the global securities markets. The combined investment portfolio experienced a return of 14.9 percent compared to the Interim Total Fund Benchmark return of
13.2 percent. The ASRS outperformance is largely related to fixed income, Global Tactical Asset Allocation and real estate selections, mid cap and small cap overweighting and opportunistic performance.

At June 30, 2010, the ASRS held $\$ 11.7$ billion in domestic equities and $\$ 3.5$ billion in international equities, an increase of 10.28 percent in domestic equities and a 2.94 percent increase in international equities from FY 2009. Market performance and the reallocation of assets accounts for the changes in values. Due to changing market conditions, a new strategic asset allocation policy was adopted in October 2009. The FY 2010 rate of return for ASRS domestic equities was 17.8 percent compared to -25.3 percent in FY 2009 reflecting positive conditions in the domestic equity markets. The ASRS domestic equities benchmark, comprised of a combination of S\&P 400, S\&P 500 and the S\&P 600, had a return of 17.0 percent for FY 2010.

The FY 2010 rate of return for ASRS international equities was 10.5 percent compared to -28.3 percent in FY 2009, reflecting positive conditions in the international equity markets. The ASRS international equities benchmark, MSCI ACWI EX-US, had a rate of return of 10.9 percent for FY 2010. The benchmarks for both domestic and international equities are representative of the returns that could be expected in a similar investing environment. The ASRS underperformed in international equities largely as a result of the stock selections of its external portfolio managers.

At June 30, 2010, the ASRS held $\$ 5.5$ billion in domestic fixed income securities, an increase of $\$ 90$ million from FY 2009. Reallocation of assets accounts for the change in values. The rate of return was 11.1 percent compared to 6.1 percent in the previous year, reflecting a decline in interest rates and general narrowing of credit spreads in FY 2010. The ASRS domestic fixed income benchmark, the BC Aggregate, had a rate of return of 9.5 percent for FY 2010. This benchmark is representative of the returns

## Management's Discussion and Analysis

that could be expected in a similar investing environment.

At June 30, 2010, the ASRS held $\$ 720$ million in real estate assets, an increase of $\$ 142.5$ million from FY 2009. The one-year net of fees rate of return was 0.5 percent compared to a -37.9 percent return in FY 2009. The program benchmark, the NPI (NCREIF Property Index) + 1 percent, was -8.7 percent for the same period. The real estate program is young and in its early stages of investment. The ASRS portfolio utilizes leverage, which was 67.8 percent as of June 30, 2010. The NCREIF Property Index is an unlevered index comprised of primarily core institutional quality real estate. The ASRS portfolio, like most other institutional real estate investors, has a large percentage invested in noncore real estate, which entails higher leasing and development risk and which have cash flows that are generated later in their life cycle. In addition, most of the non-core funds have upfront fees that negatively impact any short term comparison to the benchmark.

At June 30, 2010, the ASRS held $\$ 480.7$ million in private equity investments, an increase of $\$ 203.8$ million from FY 2009. 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 3000 Index plus 300 basis points, net of all investment management fees and expenses. The IRR since inception for the ASRS private equity program was -3.5 percent. For the same period, the Russell 3000 Index plus 300 basis points returned -4.7 percent. The negative return for the program is consistent with the J-curve associated with the program's nascent stage when un-
realized valuations and management fees create a disproportionate amount of return dispersion relative to their impact over the life of a fund.

At June 30, 2010, the ASRS held \$310.6 million in opportunistic funds, an increase of $\$ 134.2$ million from FY 2009. These consist of six (6) investments: Blackrock Mortgage Investors, Blackrock Credit Investors II, TCW Credit Opportunities Fund, TCW Capital Trust, GSO Capital Solutions Fund and Oaktree Opportunities Fund VIII. The performance of ASRS opportunistic investments are evaluated primarily on a net-of-fees absolute rate of return basis; in aggregate, these investments, inception-to-date, have returned a 19.4 percent IRR primarily as the result of continued tightening of Commercial Mortgage Backed Securities, Asset Backed Securities and other credit spreads relative to the timing of the purchase price of securities made within these strategies.

The ASRS earns additional investment income by lending investment securities. State Street Bank \& Trust, which is the ASRS's custodial bank acts as agent on behalf of the ASRS for securities lending transactions related to the securities held in custody 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 2010 was $\$ 12.5$ million compared to an $\$ 8.6$ million loss for FY 2009. In 2009, the ASRS invested in one or more securities lending collateral vehicles that held assets that were impaired as a result of the market events during FY 2009, which resulted in incurring a loss of $\$ 33.4$ million.

## 2010 Comprehensive Annual Financial Report

## Management's Discussion and Analysis

## Current Market Conditions

World markets rallied through December as fears of the economic crisis abated but concerns of economic growth truncated the rally and volatility returned in the second half of FY 2010. In order to better diversify and take advantage of tactical opportunities, ASRS implemented a new Strategic Asset Allocation policy and utilized opportunistic managers as market conditions warranted. The economy showed an initial rebound in the first half of the fiscal year but conditions weakened and growth stagnated as fiscal stimulus waned.

Between June 30, 2010 and December 2, 2010 ASRS total fund net asset values have increased by approximately 13.4 percent.

[^0]
## Basic Financial Statements

## Combined Statement of Plan Net Assets

For the Year Ended June 30, 2010 with Comparative Totals for 2009 (Dollars in Thousands)

|  | Retirement Fund | Health Benefit Supplement Fund (Note 8) |  | Long Term Disability Fund (Note 8) |  | Combined |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 2010 |  | 2009 |
| ASSETS |  |  |  |  |  |  |  |  |  |
| Cash (Note 3) | 4,081 | \$ | 183 |  |  | \$ | - | \$ | 4,264 | \$ | 15,318 |
| Prepaid benefits | - |  | - |  | - |  | - |  | 566 |
| RECEIVABLES |  |  |  |  |  |  |  |  |  |
| Accrued interest \& dividends | 62,293 |  | 2,788 |  | - |  | 65,081 |  | 61,509 |
| Securities sold (Note 3) | 178,504 |  | 7,990 |  | - |  | 186,494 |  | 231,792 |
| Forward contracts (Note 5) | 680,998 |  | 30,482 |  | - |  | 711,480 |  | 562,074 |
| Contributions (Note 7) | 38,759 |  | 1,498 |  | 1,814 |  | 42,071 |  | 45,618 |
| Due from other funds | 58 |  | 5,533 |  | 1,952 |  | 7,543 |  | 2,537 |
| Other | 10,328 |  | 58 |  | 3,042 |  | 13,428 |  | 5,857 |
| Total receivables | 970,940 |  | 48,349 |  | 6,808 |  | 1,026,097 |  | 909,387 |
| INVESTMENTS AT FAIR VALUE (Note 3) |  |  |  |  |  |  |  |  |  |
| Temporary investments | 1,262,496 |  | 51,632 |  | 6,515 |  | 1,320,643 |  | 1,166,821 |
| Temporary investments from securities lending collateral (Note 4) | 2,259,400 |  | 101,132 |  | - |  | 2,360,532 |  | 3,422,623 |
| U. S. government obligations | 3,227,247 |  | 151,014 |  | - |  | 3,378,261 |  | 2,904,489 |
| Corporate bonds | 2,051,554 |  | 95,272 |  | - |  | 2,146,826 |  | 2,531,025 |
| Common and preferred stocks | 14,371,523 |  | 638,143 |  | 237,308 |  | 15,246,974 |  | 13,585,616 |
| Derivatives | 204 |  | 9 |  | - |  | 213 |  | - |
| Real estate | 690,195 |  | 30,115 |  | - |  | 720,310 |  | 577,792 |
| Private equity | 460,125 |  | 20,623 |  | - |  | 480,748 |  | 276,922 |
| Opportunistic investments | 297,398 |  | 13,234 |  | - |  | 310,632 |  | 176,367 |
| Total investments | 24,620,142 |  | 1,101,174 |  | 243,823 |  | 25,965,139 |  | 24,641,655 |
| TOTAL ASSETS | 25,595,163 |  | 1,149,706 |  | 250,631 |  | 26,995,500 |  | 25,566,926 |
| LIABILITIES |  |  |  |  |  |  |  |  |  |
| Payable for securities purchased (Note 3) | 479,100 |  | 21,445 |  | - |  | 500,545 |  | 522,560 |
| Payable for securities lending collateral (Note 4) | 2,259,400 |  | 101,132 |  | - |  | 2,360,532 |  | 3,422,623 |
| Forward contracts payable (Note 5) | 665,691 |  | 29,797 |  | - |  | 695,488 |  | 561,084 |
| Due to Other funds | 7,485 |  | 26 |  | 32 |  | 7,543 |  | 2,537 |
| Other | 36,527 |  | 1,711 |  | 220 |  | 38,458 |  | 57,668 |
| total liabilities | 3,448,203 |  | 154,111 |  | 252 |  | 3,602,566 |  | 4,566,472 |
| NET ASSETS HELD IN TRUST FOR PENSION/ OPEB BENEFITS | \$ 22,146,960 | \$ | 995,595 | \$ | 250,379 |  | 23,392,934 |  | 21,000,454 |

The accompanying notes are an integral part of these statements.

## Basic Financial Statements

## Combined Statement of Changes in Plan Net Assets

For the Year Ended June 30, 2010 with Comparative Totals for 2009
(Dollars in Thousands)


* Purchased Service was previously referred to as Member Reimbursements.

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 administers "the System", a defined contribution plan with guaranteed benefits and "the Plan", a defined benefit plan. The System and Plan are separate components of the Retirement Fund. The System was established by the Arizona Legislature in 1953 to provide retirement and other benefits for state employees and teachers, together with employees of political subdivisions that elected coverage. In 1943, the Legislature had 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 to be 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 nonretired 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 has 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, multipleemployer post-employment benefit plans. Although the investments of the HBS Fund are commingled with investments of the Retirement Fund, only the HBS Fund's assets may be used for the payment of HBS benefits to eligible members.

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), appointed by the governor and confirmed by the Arizona State Senate, oversees the ASRS.

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 Arizona Revised Statutes. Employee contributions toward retirement benefits are excluded from gross income for Federal and State income tax purposes. However, employee contributions for long term disability are 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 could be paid by another qualified plan. Purchasable services include military service, leave of absence, previously forfeited service under the ASRS and other public service employment.

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

## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

At June 30, 2010 and June 30, 2009, the number of participating employers and employees totaled:

| Employer Units | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ |
| :--- | ---: | ---: |
| School Districts | 243 | 242 |
| Charter Schools | 156 | 156 |
| Cities and Towns | 78 | 78 |
| Counties | 15 | 15 |
| Special Districts | 93 | 94 |
| Community College Districts | 10 | 10 |
| Universities | 3 | 3 |
| State Government | $\mathbf{1}$ | 1 |
| $\quad$ Total | $\mathbf{5 9 9} \boldsymbol{}$ * | $\mathbf{5 9 9}$ |
| Employee Members |  |  |
| Retirees (including Beneficiaries) | $\mathbf{1 0 0 , 2 3 3}$ | 99,125 |
| Non Active Fully Vested | $\mathbf{2 1 0 , 6 8 4}$ | $\mathbf{2 2 8 , 8 9 6}$ |
| Long Term Disability recipients | 4,797 | 4,672 |
| Current Employees - Active | $\mathbf{2 2 0 , 3 4 2}$ | $\mathbf{2 2 3 , 3 2 3}$ |
| Total | $\mathbf{5 3 6 , 0 5 6}$ | $\mathbf{5 5 6 , 0 1 6}$ |

* The 599 Employer Reporting Units represent 708 total employers. Of the retirees noted above, 59,529 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 are eligible for full retirement benefits on (a) their 65th birthday, (b) their 62 nd birthday and completion of at least 10 years of credited service, or (c) the first day that the sum of their age plus total credited service equals 80 . 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 |  |
| :--- | :--- |
| $0-19.99$ years - | 2.10 percent |
| $20-24.99$ years - | 2.15 percent |
| $25-29.99$ years - | 2.20 percent |
| 30 or more years - | 2.30 percent |

Average monthly 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.

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.

## Notes to the Basic Financial Statements

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. For members who joined the ASRS on or after August 9, 2001, the monthly annuity is limited to no more than 80 percent of the average monthly compensation. Persons who attain age 50 with at least five years of total credited service may take an early retirement, but the amount of their retirement benefit is actuarially reduced.

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). 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 can receive a percentage of employer contributions to the plan based on years of service as follows:

| Years of Service | \% of Employer <br> 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 | $100 \%$ |

Withdrawal of such 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 recorded when the liability is incurred and revenues are recorded in the accounting period in which they are earned and become measurable. Contributions from employees and employers for service through June 30 are accrued. These 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. Investment income and expenses derived from private investments are recognized on a quarterly lag.

## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

Investments - Investments include cash, U.S. government bonds (treasury) and government agency obligations, real estate, corporate bonds, equity, derivatives, real estate partnerships, private equity and opportunistic investments.

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's 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 Assets. Changes in fair values of derivative instruments are reported as net appreciation (depreciation) of fair value on the Statement of Changes in Plan Net Assets.

Private real estate, private equity and opportunistic investments are valued based upon the partnerships' March 2010 financial statements adjusted for cash flows through June 30, 2010.

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 (loss) from investment activities includes net appreciation (depreciation) 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 man-
agement, 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.

HBS and Retirement 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 - The ASRS updated its capitalization policy as of the year ended June 30,2010 , and in conjunction with the implementation of GASB 51 (see separate disclosure below under New Accounting Pronouncements). 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, 2010, 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, 2010, 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, 2009, which is the latest available information. Significant actuarial

## Notes to the Basic Financial Statements

assumptions used in the valuations are included in the notes to the required supplemental schedules.

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

Comparative Data - The accompanying financial statements include certain prior-year summarized comparative information in total but not by fund. Such information should be read in conjunction with the ASRS's financial statements for the year ended June 30,2009 , from which the summarized information was derived. Certain 2009 amounts have been reclassified to conform to the 2010 presentation.

New Accounting Pronouncements - The ASRS implemented the following GASB Statements for the year ended June 30, 2010:

GASB Statement No. 51, "Accounting and Financial Reporting for Intangible Assets", which is effective for periods beginning after June 15, 2009. This statement establishes accounting and financial reporting requirements for intangible assets including easements, water rights, timber rights, patents, trademarks, and computer software. As permitted by GASB 51, the ASRS has elected not to retroactively capitalize internally developed software that had been previously expensed. GASB 51 requires the retroactive capitalization of purchased software in accordance with established thresholds. Purchased software still in use does not exceed the ASRS capitalization threshold of $\$ 1,000,000$ and therefore was not retroactively capitalized.

GASB Statement No. 53, "Accounting and Financial Reporting for Derivative Instruments", which is effective for periods beginning after June 15, 2009. This statement establishes accounting and financial reporting requirements for derivative instruments entered into by state and local governments. As a result, additional disclosures have been added to footnote 5 on Derivatives.

## 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's 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 38-719 (B) 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, real estate, private equity and opportunistic investments.

## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

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

1. No more than 80 percent of the ASRS's total assets may be invested at any given time in corporate stocks or equity equivalents, based on cost value of the stocks or equity equivalents irrespective of capital appreciation.
2. No more than 5 percent of the ASRS's 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.
3. No more than 5 percent of the voting stock of any one corporation may be owned.
4. No more than 30 percent of the ASRS's assets may be invested in foreign securities, and those investments shall be made only by investment managers with demonstrated expertise in such investments.
5. No more than 10 percent of the ASRS's 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.
6. No more than 1 percent of ASRS assets may be invested in economic development projects authorized as eligible for such investment by the Arizona State Department of Commerce.
7. No investments in companies that do business in Sudan, Iran, or other State Sponsors of Terrorism countries under certain conditions.
8. 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 50 percent of the assets of the investment account measured at cost.

The Board has not formally adopted more restrictive policies 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 much 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 \$186 million and a payable for securities purchased of $\$ 500$ million at June 30, 2010.

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. No investments, other than short term mutual funds, account for 5 percent or more of the ASRS assets.

## Notes to the Basic Financial Statements

## I nvestments by I nvestment Type

At June 30, 2010
(Dollars in Thousands)


## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

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, 2010 categorized to give an indication of the level of risk assumed by ASRS:

## Debt Securities

## Credit Quality Risk (Fixed I ncome Securities)

At June 30, 2010
(Dollars in Thousands)

|  |  | Fair Value as <br> percent of Total <br> Debt Securities <br> Investments |
| :--- | ---: | :---: |
| AAA | $\$ 3,702,484$ | $67.01 \%$ |
| AA | 210,596 | $3.81 \%$ |
| A | 529,243 | $9.58 \%$ |
| BBB | 460,702 | $8.34 \%$ |
| BB | 102,541 | $1.86 \%$ |
| B | 265,942 | $4.81 \%$ |
| CCC | 170,770 | $3.09 \%$ |
| CC | 66,878 | $1.21 \%$ |
| C | 3,323 | $0.06 \%$ |
| NR* | 12,608 | $0.23 \%$ |
| Totaling $*$ | $\$ \mathbf{5 , 5 2 5 , 0 8 7}$ | $\mathbf{1 0 0 . 0 0 \%}$ |

[^1]
## Notes to the Basic Financial Statements

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, 2010
(Dollars in Thousands)

| Investment | Fair Value | Effective Duration <br> (in years) |
| :--- | ---: | :--- |
| DOMESTIC FIXED INCOME INVESTMENTS |  |  |
| Asset Backed Securities | $\$$ | 318,016 |
| Commercial Mortgage Backed | 312,398 | 2.4 |
| Corporate Bonds | $1,424,474$ | 3.1 |
| Non-Government Backed CMO's | 91,938 | 4.9 |
| Total Corporate Bonds | $\mathbf{2 , 1 4 6 , 8 2 6}$ | 4.6 |
| GOVERNMENT BONDS |  |  |
| Government Related | 884,248 | 3.4 |
| Government Agencies CMO's | $\mathbf{8 , 5 9 6}$ | -1.0 |
| Government Bonds | $\mathbf{1 , 0 8 8 , 2 8 8}$ | 4.6 |
| Government Mortgage Backed | $\mathbf{1 , 3 9 7 , 1 2 9}$ | 1.7 |
| Total Government Bonds | $\mathbf{3 , 3 7 8 , 2 6 1}$ |  |
| TOTAL DEBT SECURITIES | $\mathbf{\$ 5 , 5 2 5 , 0 8 7}$ |  |

## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

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 30 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, 2010
(Dollars in Thousands)

| Currency Type | Temporary Investments |  | Fixed Income |  | Equities |  | Real Estate |  | Private Equity |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Australian Dollar | \$ | 192 | \$ | - | \$ | 73,904 | \$ | - | \$ | - | \$ | 74,096 |
| Brazilian Real | \$ | 6 | \$ | 167 | \$ | 423 | \$ | - | \$ | - | \$ | 596 |
| Canadian Dollar | \$ | 696 | \$ | 24,403 | \$ | 17,387 | \$ | - | \$ | - | \$ | 42,486 |
| Czech Koruna | \$ | 63 | \$ | - | \$ | 4,719 | \$ | - | \$ | - | \$ | 4,782 |
| Danish Krone | \$ | 6 | \$ | - | \$ | 20,165 | \$ | - | \$ | - | \$ | 20,171 |
| Euro Currency | \$ | 7,626 | \$ | 6,691 | \$ | 661,543 | \$ | - | \$ | 49,270 | \$ | 725,130 |
| Hong Kong Dollar | \$ | 185 | \$ | - | \$ | 93,838 | \$ | - | \$ | - | \$ | 94,023 |
| Israeli Shekel | \$ | - | \$ | - | \$ | 66 | \$ | - | \$ | - | \$ | 66 |
| J apanese Yen | \$ | 4,934 | \$ | - | \$ | 406,280 | \$ | - | \$ | - | \$ | 411,214 |
| Mexican Peso | \$ | - | \$ | - | \$ | 606 | \$ | - | \$ | - | \$ | 606 |
| New Zealand Dollar | \$ | 5 | \$ | - | \$ | 5,037 | \$ | - | \$ | - | \$ | 5,042 |
| Norwegian Krone | \$ | 41 | \$ | - | \$ | 2,527 | \$ | - | \$ | - | \$ | 2,568 |
| Pound Sterling | \$ | (42) | \$ | 3,314 | \$ | 379,719 | \$ | 22,753 | \$ | - | \$ | 405,744 |
| Singapore Dollar | \$ | 14 | \$ | - | \$ | 24,292 | \$ | - | \$ | - | \$ | 24,306 |
| South African Rand | \$ | - | \$ | - | \$ | 13,272 | \$ | - | \$ | - | \$ | 13,272 |
| South Korean WON | \$ | - | \$ | - | \$ | 21,091 | \$ | - | \$ | - | \$ | 21,091 |
| Swedish Krona | \$ | 6 | \$ | - | \$ | 31,603 | \$ | - | \$ | - | \$ | 31,609 |
| Swiss Franc | \$ | 4 | \$ | - | \$ | 212,888 | \$ | - | \$ | - | \$ | 212,892 |
| Thailand Baht | \$ | - | \$ | - | \$ | 1,017 | \$ | - | \$ | - | \$ | 1,017 |
| Total | \$ | 13,736 | \$ | 34,575 | \$ | 1,970,377 | \$ | 22,753 | \$ | 49,270 | \$ | 2,090,711 |

## Notes to the Basic Financial Statements

## 4. Securities Lending Program

Arizona Revised Statutes Section 38-715(D)(3) allows the ASRS to participate in a securities lending program. The ASRS's custodial bank enters into agreements with counterparts to loan securities and have the same securities redelivered at a later date. All securities are eligible for loan (U.S. fixed income securities, U.S. equities, international equities) with a higher percentage of U.S. Treasuries on loan than most other security types.

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 no counter party risk to borrowers because the amount the ASRS owes the borrowers exceeds the amount the borrowers owe the ASRS. Securities loaned are initially fully collateralized by cash (USD and Euro), irrevocable letters of credit, U.S. Government or Agency securities, or sovereign debt. 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 Assets. A corresponding liability is recorded as the ASRS must return the cash collateral to the borrower upon expiration of the loan. At June 30, 2010, the fair value of securities on loan was $\$ 3.87$ billion; $\$ 2.27$ billion in cash collateralized loans and $\$ 1.61$ billion in non-cash collateralized loans. Cash of $\$ 2.36$ billion received as collateral for securities loaned was reinvested and had a net asset value of $\$ 2.35$ billion as of June 30, 2010. The securities lending payable at June 30 , 2010, was $\$ 2.36$ billion. 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. The ASRS is invested in one or more securities lending collateral vehicles which were impaired as a result of market events of FY 2009. This impairment resulted in the recognition of a \$33.4 million loss in FY 2009.

## 5. Derivatives

A derivative instrument is a financial instrument or other contract with all three of the following characteristics:
a) It has one or more underlying 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) 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,

## Notes to the Basic Financial Statements

c) 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's 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's 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 Assets. Changes in fair values of derivative instruments are reported as net appreciation (depreciation) of fair value on the Statement of Changes in Plan Net Assets.

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2010, classified by type, and the changes in fair value of derivative instruments for the year then ended as reported in the June 30, 2010 financial statements are as follows:

## I nvestment Derivatives by Type

(Dollars in Thousands)

| I nvestment Derivatives | Changes in Fair Value Classification | Amount | Fair Value at J une 30, 2010 Classification | Amount | Notional |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Commodity Futures | Net Appreciation in Fair Value | \$ 7,357 | Forward Contracts Payable | \$ (579) | \$ 14,551 |
| Credit Default Swaps |  |  | Temporary Investments, |  |  |
| Written | Net Appreciation in Fair Value | 30 | Derivatives | 58 | 13,900 |
| Fixed Income Futures | Net Appreciation in Fair Value | 72,987 | Forward Contracts Receivable | 15,289 | $(22,064,950)$ |
| Fixed Income Options |  |  | Temporary Investments, |  |  |
| Written | Net Appreciation in Fair Value | 513 | Derivatives | (749) | $(90,100)$ |
| Foreign Currency Futures Foreign Currency Options | Net Appreciation in Fair Value | 35,085 | Forward Contracts Receivable | 16,088 | 81,103 |
| Written | Net Appreciation in Fair Value | 40 | Not Applicable | - |  |
| Futures Options Written Foreign Currency | Net Appreciation in Fair Value | (137) | Temporary Investments | (877) | (570) |
| Forwards | Net Appreciation in Fair Value | 27,547 | Forward Contracts Receivable | 6,207 | 683,735 |
| Index Futures | Net Appreciation in Fair Value | 26,949 | Forward Contracts Payable | $(24,588)$ | 7,405 |
| Fixed Interest Rate Swaps | Net Appreciation in Fair Value | (207) | Derivatives | 167 | 34,000 |
|  |  |  | Common Stock and Preferred |  |  |
| Rights | Net Appreciation in Fair Value | 1,111 | Stock | 74 | 1,334 |
|  |  |  | Common Stock and Preferred |  |  |
| Warrants | Net Appreciation in Fair Value | (208) | Stock | 675 | 479 |
| Total |  | \$171,067 |  | \$11,765 | \$(21,319,113) |

The fair value of derivative instruments reported by ASRS are 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.

# Notes to the Basic Financial Statements 

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 | Concentration | S\&P | Ratings |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Fitch | Moody's |  |  |  |  |
| Bank of America | $\$$ | 955 | $8.12 \%$ | A+ | A+ |
| Barclays | 1,433 | $12.18 \%$ | AA- | AA- | Aa3 |
| BNP Paribas SA | 577 | $4.90 \%$ | AA | AA- | Aa2 |
| Citibank N.A. | 459 | $3.90 \%$ | A+ | A+ | A1 |
| Credit Suisse London | 580 | $4.93 \%$ | A+ | AA- | Aa1 |
| Deutsche Bank London | 987 | $8.39 \%$ | A+ | AA- | Aa3 |
| Goldman Sachs International | 7 | $0.06 \%$ | A | A+ | A1 |
| HSBC Bank USA | 36 | $0.31 \%$ | AA | AA | Aa3 |
| JP Morgan Securities, Inc. |  | 167 | $1.42 \%$ | A+ | AA- |
| Aa3 |  |  |  |  |  |
| JP Morgan Chase Bank N.A. | 914 | $7.77 \%$ | AA- | AA- | Aa1 |
| Royal Bank of Scotland PLC |  | 1,206 | $10.25 \%$ | A+ | AA- |
| Aa3 |  |  |  |  |  |
| Standard Chartered Bank | 646 | $5.49 \%$ | A+ | A+ | A2 |
| State Street Bank and Trust Co. | 893 | $7.59 \%$ | AA- | A+ | Aa2 |
| USB AG | 2,904 | $\mathbf{2 4 . 6 8 \%}$ | A+ | A+ | Aa3 |
| Westpac Banking Corporation | 1 | $0.01 \%$ | AA | AA | Aa1 |
| $\quad$ Total | $\mathbf{1 1 , 7 6 5}$ | $\mathbf{1 0 0 . 0 0 \%}$ |  |  |  |

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's investment managers have master netting arrangements to allow net settlement with the same counterparty in the event the counterparty defaults on its obligations.

ASRS's derivatives do not have contingent features.

The aggregate fair value of investment derivative instruments in asset positions at June 30, 2010 was $\$ 38.6$ million. This represents the maximum loss that would be recognized at the reporting date if all counterparties fail to perform as contracted. There was no collateral received or netting arrangements in place at June 30, 2010 with counterparties that would reduce this exposure.

## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

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, 2010, for the year then ended as reported in the June 30, 2010 financial statements are as follows:

## I nterest Rate Risk for I nterest Rate Swap

(In Thousands)

| Asset ID | Asset Description | Fair Value | Notional |  |
| :---: | :---: | :---: | :---: | :---: |
| SWU058948 | IRS BRL R F $11.57000 /$ IRS BRL P V 00MCETIP | $\$$ | 167 | $\$$ |

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, 2009 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 4.5 percent to 9.5 percent per year, inflation rate assumption of 3.75 percent, rates of disability, rates of withdrawal, rates of retirement, mortality rates, mortality rates after disability, valuation of assets using fair value less ten year phase-in, investment income, and the projected unit credit funding method. The unfunded accrued liability is amortized over a thirty year rolling period.

Significant actuarial assumptions used in the June 30, 2009 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 cost method of funding. Assets are valued at market, less (or plus) 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 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).

## Notes to the Basic Financial Statements

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

| Actuarial Valuation J une 30 | Actuarial Value of Assets a | Actuarial Accrued Liability Projected Unit-Credit <br> b |  | unded <br> uarial <br> rued <br> bility <br> - a) | Funded Ratio <br> (a/b) | Covered <br> Payroll <br> c | UAAL as a Percentage of Covered Payroll [(b-a)/c] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RETIREMENT PLAN |  |  |  |  |  |  |  |
| 2009 | \$ 27,094 | \$ 34,290 | \$ | 7,196 | 79.0\% | \$ 9,835 | 73.2\% |
| HEALTH I NSURANCE PREMI UM BENEFIT |  |  |  |  |  |  |  |
| 2009 | \$ 1,266 | \$ 1,452 | \$ | 186 | 87.2\% | \$ 9,835 | 1.9\% |
| LONG TERM DISABI LITY PROGRAM |  |  |  |  |  |  |  |
| 2009 | \$ 311 | \$ 476 | \$ | 165 | 65.3\% | \$ 9,835 | 1.7\% |

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) over a thirty year rolling period for the Retirement and HBS plans and over fifteen years in level dollar payments 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 shortterm 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's Board in April, 2008. 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.

## Notes to the Basic Financial Statements

The contribution rates for the years ended June 30, 2010 and 2009 were as follows:

|  | (2008 Valuation) <br> For the contribution period ending J une 30, 2010 Percent of Amount Covered Payroll |  | (2007 Valuation)For the contribution periodending $J$ une 30,2009Percent ofAmount $\quad$ Covered Payroll |  |
| :---: | :---: | :---: | :---: | :---: |
| RETIREMENT |  |  |  |  |
| Normal cost | \$ 1,205,102,668 | 12.42\% | \$ 1,133,088,527 | 12.36\% |
| Amortization of under-funded past service liability | 478,028,422 | 4.92\% | 418,305,460 | 4.58\% |
| Retirement Total | 1,683,131,090 | 17.34\% | 1,551,393,987 | 16.94\% |
| HEALTH PREMIUM BENEFIT TOTAL |  |  |  |  |
| Normal cost | 46,380,771 | 0.48\% | 52,254,083 | 0.57\% |
| Amortization of under-funded past service liability | 17,025,499 | 0.18\% | 35,619,897 | 0.39\% |
| Health Premium Benefit Total | 63,406,270 | 0.66\% | 87,873,980 | 0.96\% |
| LONG TERM DISABILITY |  |  |  |  |
| Normal cost | 46,423,979 | 0.48\% | 47,774,219 | 0.54\% |
| Amortization of under-funded past service liability | 30,103,585 | 0.32\% | 40,328,046 | 0.46\% |
| Long Term Disability Total | 76,527,564 | 0.80\% | 88,102,265 | 1.00\% |
| ACTUARI AL TOTAL | 1,823,064,924 | 18.80\% | 1,727,370,232 | 18.90\% |
| CONTRIBUTIONS MADE AS A PERCENTAGE OF THE CURRENT YEAR COVERED PAYROLL |  |  |  |  |
| Employers' Retirement * | 749,541,622 | 8.34\% | 753,909,718 | 7.99\% |
| Employees' Retirement * | 808,814,419 | 9.00\% | 844,405,884 | 8.95\% |
| Employers' Health Premium Benefit | 59,393,099 | 0.66\% | 90,489,881 | 0.96\% |
| Employers' Long Term Disability | 35,938,596 | 0.40\% | 47,212,670 | 0.50\% |
| Employees' Long Term Disability | 35,938,596 | 0.40\% | 47,212,670 | 0.50\% |
| Total | \$ 1,689,626,332 | 18.80\% | \$ 1,783,230,823 | 18.90\% |

* Does not include System contributions. Retirement contributions from the employer, for the year ended June 30, 2010, reflect total employer contributions of $\$ 763,005,105$ less $\$ 13,463,483$ of unfunded employer liabilities.

The statutory contribution rate and actuarially determined contribution rate for the year ended June 30, 2009 was 9.45 percent for both the employees' and employers' portion. (Employees paid 8.95 percent retirement and .50 percent long term disability. Employers paid 7.99 percent retirement, .96 percent for the health insurance premium supplement and .50 percent for long term disability.) This rate was determined by the 2007 actuarial valuation. It is applied to the covered payroll to determine the employee and employer contributions.

The statutory contribution rate and the actuarially determined contribution rate for the year ended June 30, 2010 was 9.4 percent for both the employees' and employers' portion. (Employees paid 9.00 percent retirement and .40 percent long term disability. Employers paid 8.34 percent for retirement, 66 percent for the health insurance premium supplement and .40 percent for long term disability.) This rate was determined by the 2008 actuarial valuation. It is applied to the covered payroll to determine the employee and employer

## Notes to the Basic Financial Statements

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.

Unfunded liabilities of $\$ 13.46$ million billed to employers are included in total employer contributions for the year ended June 30, 2010. 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's actuary. The following summarizes total employer contributions for the Plan for the year ended June 30, 2010:

> | Employer contributions | $\begin{array}{l}\$ 749,541,622 \\ \text { Unfunded liabilities }\end{array}$ |
| :--- | :--- |
|  |  |
| $\mathbf{\$ 7 6 3 , 0 0 5 , 1 0 5}$ |  |

## 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 .40 percent of compensation to the LTD fund in FY 2010 and . 50 percent in FY 2009.

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, 2010, more than 62,088 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 2010 the employer's retirement contribution of 9.00 percent of compensation included . 66 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 $\$ 88.0$ million and $\$ 87.7$ million towards the cost of group health insurance coverage for the years ended June 30, 2010 and 2009, respectively.

## 2010 Comprehensive Annual Financial Report

## Notes to the Basic Financial Statements

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

|  |  | Without Medicare |  |  |  | With Medicare A \& B |  |  |  | Combinations |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Years of Credited Service | Percent of Premium Benefit | Retiree Only |  | Retiree \& Dependents |  | Retiree Only |  | Retiree \& Dependents |  | Retiree \& Dependent, One with Medicare, the other without |  | Retiree \& Dependent with Medicare, other dependent without |  |
| 5.0-5.9 | 50 percent | \$ | 75 | \$ | 130 | \$ | 50 | \$ | 85 | \$ | 107.50 | \$ | 107.50 |
| 6.0-6.9 | 60 percent |  | 90 |  | 156 |  | 60 |  | 102 |  | 129.00 |  | 129.00 |
| 7.0-7.9 | 70 percent |  | 105 |  | 182 |  | 70 |  | 119 |  | 150.50 |  | 150.50 |
| 8.0-8.9 | 80 percent |  | 120 |  | 208 |  | 80 |  | 136 |  | 172.00 |  | 172.00 |
| 9.0-9.9 | 90 percent |  | 135 |  | 234 |  | 90 |  | 153 |  | 193.50 |  | 193.50 |
| 10.0+ | 100 percent |  | 150 |  | 260 |  | 100 |  | 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’s financial position or results of operations.

## 10. Commitments

In connection with the purchase of various partnership interests in real estate, private equity and opportunistic investment portfolios, the ASRS has remaining unfunded commitments of approximately $\$ 542.3$ million, $\$ 1,284.2$ million and $\$ 465.5$ million, respectively, as of June 30, 2010.

## 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.

## 12. Required Supplementary Schedules

Historical trend information designed to provide information about the ASRS's 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 Arizona Revised Statutes (A.R.S.). The Long Term Disability Program is administered in accordance with Title 38, Chapter 5, Article 2.1.g.

## Notes to the Basic Financial Statements

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 Projected Unit Credit (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, 2010 and June 30, 2009, were 9.40 percent ( 9.0 percent retirement and .4 percent LTD) and 9.45 ( 8.95 percent retirement and .5 percent LTD), respectively. All eligible ASRS employees were required to contribute 9.40 percent of their annual covered salary, and the ASRS, as the employer, was required to match these contributions.

The contributions 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.

After June 30, 2005, contributions made to the Plan, plus accrued interest of 4 percent per annum, are refundable upon termination of employment.

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.

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

| Fiscal <br> Year | Salary Base | Retirement <br> Contributions | HBS <br> Contributions | LTD <br> Contributions | Total <br> Contributions | \% of Required <br> Contributions |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2010 | $\$ 10,894,788$ | $\$$ | 907,516 | $\$$ | 71,814 | $\$$ | 44,780 | $\$$ |
| 2009 | $10,567,948$ | 845,150 | 102,542 | 51,979 | 998,671 | $100 \%$ |  |  |
| 2008 | $10,786,746$ | 878,432 | 103,056 | 54,039 | $1,035,527$ | $100 \%$ |  |  |

## Required Supplementary I nformation

## Schedule of Funding Progress

For Year Ended June 30, 2010
(Dollars in Millions)


[^2]
# Required Supplementary Information 

## Schedule of Employer Contributions

For Year Ended June 30, 2010
(Dollars in Thousands)

|  | Retirem <br> Annual Required Contribution |  | nt Fund <br> Percentage Contributed |  | Health In Premium <br> Annual Required ontribution | surance <br> Benefit <br> Percentage <br> Contributed |  |  | g Term <br> Prog <br> nual <br> uired <br> ibution | Disability ram <br> Percentage Contributed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2003 | \$ | 138,100 | 100\% | \$ | 4,256 | 100\% | \$ | \$ | 34,800 | 100\% |
| 2004 |  | 297,770 | 100 |  | 79,662 | 100 |  |  | 36,026 | 100 |
| 2005 |  | 318,311 | 100 |  | 85,350 | 100 |  |  | 38,982 | 100 |
| 2006 |  | 477,472 | 100 |  | 93,461 | 100 |  |  | 41,188 | 100 |
| 2007 |  | 663,544 | 100 |  | 103,473 | 100 |  |  | 44,518 | 100 |
| 2008 |  | 759,482 | 100 |  | 99,027 | 100 |  |  | 47,171 | 100 |
| 2009 |  | 754,044 | 100 |  | 90,490 | 100 |  |  | 47,213 | 100 |
| 2010* |  | 749,636 | 100 |  | 59,393 | 100 |  |  | 35,939 | 100 |

[^3]
## 2010 Comprehensive Annual Financial Report

## Notes to Required Supplementary Information

## 1. Actuarial Methods and Assumptions for Valuations Performed (for most recent actuarial valuation)

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated.

The Projected Unit Credit (PUC) method is the actuarial cost method used in the valuations for the period ended June 30, 2009. 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 3.75 percent per annum. Members' salaries are assumed to increase at a rate of 4.50 percent to 9.50 percent per annum, depending on the length of service. The permanent benefit increase (PBI) reserve was zero as of June 30, 2009, as a result of the payment of the 2005 PBI.

## Significant Factors Affecting I dentification of Trends

## 2000

The age restriction on eligibility for the PBI was removed.

## 2001

## Return to Work

Permits retired members of the ASRS to return to work and still be eligible to receive retirement benefits if they have been terminated from employment for a period of 12 months. The members who take this option will not be eligible for LTD benefits nor will they contribute to the ASRS or accrue additional benefits during the period of re-employment. This act was repealed June 30, 2003.

This is similar to the bill passed in 2000 allowing retired teachers to return to work, and it does not affect the requirements of that program.

## Transferring Credits

Permits an inactive member who has not retired to transfer credited service from one state plan to their current or former retirement plan if the inactive member is not eligible for membership in the ASRS and has not withdrawn contributions from the ASRS.

## Health Insurance Premium Benefit

Increases the health insurance premium benefit for members of the eligible state retirement systems by the following amounts:

- Medicare eligible member from $\$ 65$ to $\$ 100$
- Non-Medicare eligible member from \$95 to \$150
- Non-Medicare family coverage from $\$ 175$ to \$260
- Medicare eligible family coverage from $\$ 115$ to \$170
- Combination Medicare and non-Medicare eligible from \$145 to \$215


# Notes to Required Supplementary Information 

Rural Health Insurance Premium Benefit

In addition to the premium benefit paid to ASRS retired and disabled members, provides 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:

- Medicare eligible member $\$ 170$ per month
- Non-Medicare eligible member $\$ 300$ per month
- Non-Medicare family coverage $\$ 600$ per month
- Medicare eligible family coverage $\$ 350$ per month
- Combination Medicare and non-Medicare eligible $\$ 470$ per month

Also provides that a retired or disabled member may elect to purchase individual coverage and receive a payment of the increased subsidy through the member's employer if the employer assumes the administrative function associated with the payment including verification that the payment is used for health insurance.

## Partial Lump Sum Option

Beginning July 1, 2002, a member may elect a partial lump sum payment at retirement equal to not more than 36 months of the member's calculated retirement benefit. The life annuity amount then would be adjusted actuarially to a reduced amount to offset the lump sum payment.

## Graded Multiplier

Provides a variable 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 | $2.30 \%$ |

## Supplemental Defined Contribution (DC) Retirement Plan

Permits the four state retirement plans to establish a 401(a) defined contribution program as a supplement to the state defined benefit programs. Repeals the alternative DC programs for term-limited state elected officials and state employees exempted from state personnel rules. Employees may make contributions to IRS limits with a match by the employer. Each employer member of the ASRS would be permitted to choose its own match rate.

## Permanent Benefit Increase (PBI) Enhancement

Provides that interest at a rate of 8 percent be paid on the funds held in reserve for the PBI. The interest accrued to the reserve is used to fund an enhanced PBI based on the number of years a member has been retired. A member who has at least 10 years of service would be eligible for an incremental increase for each five years of retirement.

## PSPRS Membership; Park Rangers

Transfers state and county park rangers from the ASRS to the PSPRS.

## Community Colleges; Optional Retirement; Contributions

Permits a community college that has an optional retirement program to increase employer and employee contributions to seven percent.

## Notes to Required Supplementary Information

It provides a window for ASRS members to transfer to the optional programs from October 1, 2001 through December 31, 2001. The ASRS shall transfer their contributions plus interest to the optional program.

## Purchase of Military Service

Allows for ASRS members to purchase military service time for which they may already be receiving benefits.

## Pop-Up and Life Certain Option

Allows for retirees who choose the 5,10 , or 15 period certain options to rescind the election and thereafter, receive a straight life annuity, including post-retirement increases. The member may again elect a period certain and life annuity subject to the same provision previously elected by the member.

## 2002

No material changes.

## 2003

## Change to Phase-in Period

Prior to the 2002 valuation, actuarial assets were equal to market, less a five-year phase-in of the excess of expected investment return over actual investment return. For 2002 and future years, the Board changed the fiveyear phase-in period to a ten-year period. So, the 2002 valuation recognizes only 10 percent of the 2002 investment loss. The years prior to 2002 remain on their original five-year schedules.

## Extension of the Rural Health Insurance Premium Benefit

The Legislature passed legislation that extends the Ru-
ral Health Insurance Subsidy for a period of two additional years.

## 2004

## Service Purchase Program

The Legislature revised the method of calculating the cost of service purchases, so that future purchases would be made at true actuarial present value. ASRS began to charge interest at 8 percent per annum for service purchases under payroll deduction agreements.

## Early Retirement Incentive Programs

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

## Long Term Disability Program

The Legislature revised and clarified LTD provisions so that disabled members will be required, when appropriate, to participate in rehabilitation programs and to pursue obtaining 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.

## 2005

## Refund of Contributions

The Board reduced the rate of interest accruals on forfeited balances from 8 percent to 4 percent effective July 1, 2005.

# Notes to Required Supplementary Information 

The Legislature:

- Changed contribution rate calculations from biennial to annual for all fiscal years beginning after FYE 2007. It also modified biennial rate requirements to allow the rate to be stepped in over a two year period for FYE 2006 and 2007.
- Pegged the contribution rates for fiscal year 2006 and fiscal year 2007 at 6.90 percent and 8.60 percent respectively. After fiscal year 2007, contribution rates are to be determined annually.
- Eliminated the Rural Health Insurance Premium Benefit for retirees in the ASRS health insurance program who are not eligible for Medicare.


## Temporary Rural Health Insurance Premium Benefit

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

## 2006

The 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.

## 2007

## Long Term Disability Program

The Legislature changed the Long Term Disability Program Social Security disability offsets and pre-existing condition requirements. The Social Security disability offsets were changed from 64 to 85 percent and the Social Security retirement benefits were changed from 83 to 85 percent. The pre-existing condition requirement was changed from three months to six months.

## Extension of the Rural Health Insurance Premium Benefit

The Legislature extended the temporary Rural Health Insurance Premium Benefit for two years.

## Membership

The Legislature exempted post-doctoral scholars from ASRS membership.

## Service Credit

The Legislature expanded eligibility for Active Military Service Credit.

## 2008

## Service Purchase Program

The Legislature modified one of the salary calculations used for service purchases and clarified the salary calculations used for leave of absence purchases.

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# Notes to Required Supplementary I nformation 

## Membership

The Legislature clarified that a member who purchases previously forfeited service credit is subject to the benefit structure and duties in place when the person again becomes a member.

## Overpayment Recovery

The Legislature required the ASRS to recover overpaid money by reducing a benefit owed to any member, beneficiary, or alternate payee.

## Unclaimed Property

The Legislature exempted the ASRS from statutory unclaimed property procedures and instituted notice and people search requirements.

## Transfers Out

The Legislature modified procedures related to transfers out of the system, specifically with respect to existing Payroll Deduction Agreements for service purchases.

## Divestment

The Legislature enacted bills providing for mandatory engagement with and potential divestment from companies that have either invested, since August 5, 1996, \$20 million or more in any year in Iran's petroleum energy sector or meet specific Sudan-related business operations criteria. The Legislature also required the ASRS to create a policy regarding investments in countries designated as "State Sponsors of Terrorism" by the U.S. State Department.

2009 (most recent actuarial valuation)
Defined Benefit Plan Design
The Legislature eliminated the 80 percent cap on monthly benefits. The cap applied to members hired after August 9, 2001 and is now eliminated for all ASRS members. The legislation also clarified that nonretired survivor benefits are triggered by a member's death regardless of whether the member was employed at the time of death.

## Service Purchase

The Legislature, effective July 1, 2010, required members to have five years of service credit in ASRS before initiating a service purchase. The legislation also allowed a member to purchase time worked for a government of a U.S. commonwealth, insular area or overseas possession. The legislation also repealed an earlier law that provided for a sunset of the revised military call-up disability service purchase provisions, and instead extended the provisions indefinitely.

## Return to Work

The Legislature allowed retired members who return to work with a suspension of benefits to choose a different annuity option when they again retire if the member resumed work for at least 60 consecutive months. The legislation also allowed retired members to immediately return to work without suspension if the member returned to a different position that does not require participation in the ASRS and the member participates in another state pension program.

# Notes to Required Supplementary Information 

Early Termination Incentives

The Legislature limited exceptions to the Employer Termination Incentive Program (ERTIP) definition by eliminating reclassifications and merit or cost of living increases (leaving promotion as the only exception.) The legislation removed the requirement that in order to qualify as an ERTIP, an agreement to terminate must be in writing and instead broadens the meaning to include anything of value provided by an employer that is conditioned on the member's termination. In addition, enhanced payments of vacation, sick or compensatory leave will count as ERTIP incentive payments.

## Ineligible Persons

The Legislature required an employer that employs and makes contributions for a person who works for a thirdparty organization (and does not meet ASRS membership) - if the ASRS or a court determines that ASRS must pay a benefit to the person - to pay any unfunded liability resulting to ASRS after ASRS subtracts the person's account balance from the present value of the benefit.

## Dual Employment

The Legislature eliminated a member's ability to contribute via a second employer (ER), beginning January 1,2010 , unless the member meets the 20/20 membership criteria with respect to the second ER. The Legislature established an exception if the employee had been employed by the second ER between January 1, 2005 and December 31, 2009, continues or resumes employment before January 1, 2012, and does not leave employment for more than 30 consecutive days during their service year.

## Long Term Disability Program

The Legislature cross-referenced the LTD Program definitions with the ASRS Defined Benefit Plan statutes to ensure conformity between the programs and also clarified the calculation of the LTD contribution rate.

## Rural Health Insurance Premium Benefit

The Legislature did not extend the temporary Rural Health Insurance Premium Benefit, allowing the program to expire June 30, 2009.

## Additional Supplementary I nformation

## Combining Schedule of Retirement Net Assets

For the Year Ended J une 30, 2010
(Dollars in Thousands)

|  | Retirement Plan |  | Retirement System |  | $\begin{aligned} & \text { Combined } \\ & 2010 \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASSETS |  |  |  |  |  |  |
| Cash | \$ | 4,012 | \$ | 69 | \$ | 4,081 |
| Prepaid benefits |  | - |  | - |  | - |
| RECEIVABLES |  |  |  |  |  |  |
| Accrued interest \& dividends |  | 61,242 |  | 1,051 |  | 62,293 |
| Securities sold |  | 175,492 |  | 3,012 |  | 178,504 |
| Forward contracts |  | 669,506 |  | 11,492 |  | 680,998 |
| Contributions |  | 38,759 |  | - |  | 38,759 |
| Due from other funds |  | 57 |  | 1 |  | 58 |
| Other |  | 10,294 |  | 34 |  | 10,328 |
| Total receivables |  | 955,350 |  | 15,590 |  | 970,940 |
| INVESTMENTS AT FAIR VALUE |  |  |  |  |  |  |
| Temporary investments |  | 1,235,886 |  | 26,610 |  | 1,262,496 |
| Temporary investments from securities lending collateral |  | 2,221,273 |  | 38,127 |  | 2,259,400 |
| U. S. government obligations |  | 3,177,624 |  | 49,623 |  | 3,227,247 |
| Corporate bonds |  | 2,018,154 |  | 33,400 |  | 2,051,554 |
| Common and preferred stocks |  | 14,128,239 |  | 243,284 |  | 14,371,523 |
| Derivatives |  | 200 |  | 4 |  | 204 |
| Real estate |  | 675,340 |  | 14,855 |  | 690,195 |
| Private equity |  | 460,125 |  | - |  | 460,125 |
| Opportunistic investments |  | 291,638 |  | 5,760 |  | 297,398 |
| Total investments |  | 24,208,479 |  | 411,663 |  | 24,620,142 |
| TOTAL ASSETS | \$ | 25,167,841 | \$ | 427,322 | \$ | 25,595,163 |
| LIABILITIES |  |  |  |  |  |  |
| Payable for securities purchased |  | 471,015 |  | 8,085 |  | 479,100 |
| Payable for securities lending collateral |  | 2,221,273 |  | 38,127 |  | 2,259,400 |
| Forward contracts payable |  | 654,457 |  | 11,234 |  | 665,691 |
| Due to Other funds |  | 5,792 |  | 1,693 |  | 7,485 |
| Other |  | 35,884 |  | 643 |  | 36,527 |
| Total liabilities |  | 3,388,421 |  | 59,782 |  | 3,448,203 |
| NET ASSETS HELD IN TRUST FOR PENSION BENEFITS | \$ | 21,779,420 | \$ | 367,540 | \$ | 22,146,960 |

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 Assets and Changes in Retirement Net Assets are presented here to provide members with more detailed information about the two plan components.

## Additional Supplementary Information

## Combining Schedule of Changes in Retirement Net Assets

For the Year Ended June 30, 2010
(Dollars in Thousands)

| Additions (Reductions) | Retirement Plan | Retirement System |  | $\begin{gathered} \text { Combined } \\ 2010 \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CONTRIBUTIONS |  |  |  |  |  |
| Member contributions | \$ 808,814 | \$ | 94 | \$ | 808,908 |
| Employer contributions | 763,005 |  | 94 |  | 763,099 |
| Transfers from other plans | 2,953 |  |  |  | 2,953 |
| Purchased Service | 71,020 |  |  |  | 71,020 |
| Total Contributions | 1,645,792 |  | 188 |  | 1,645,980 |
| INCOME FROM INVESTMENT ACTIVITIES |  |  |  |  |  |
| Net appreciation (depreciation) in fair value (public) | 2,306,372 |  | 44,555 |  | 2,350,927 |
| Interest | 212,317 |  | 3,799 |  | 216,116 |
| Dividends | 251,384 |  | 4,464 |  | 255,848 |
| Real Estate | $(18,421)$ |  | (416) |  | $(18,837)$ |
| Private Equity | 74,007 |  | - |  | 74,007 |
| Opportunistic Investments | 76,068 |  | 1,589 |  | 77,657 |
| Other | 15,024 |  | 261 |  | 15,285 |
| Total income from investment activities | 2,916,751 |  | 54,252 |  | 2,971,003 |
| LESS INVESTMENT ACTIVITY EXPENSES |  |  |  |  |  |
| Management fees and monitoring services (public) | $(44,988)$ |  | (796) |  | $(45,784)$ |
| Real estate expense | $(35,145)$ |  | (779) |  | $(35,924)$ |
| Private equity expense | $(23,509)$ |  | - |  | $(23,509)$ |
| Opportunistic investments expense | $(5,342)$ |  | (109) |  | $(5,451)$ |
| Total investment activity expenses | $(108,984)$ |  | (1,684) |  | (110,668) |
| Net income from investment activities | 2,807,767 |  | 52,568 |  | 2,860,335 |
| FROM SECURITIES LENDING ACTIVITIES |  |  |  |  |  |
| Security lending income | 11,921 |  | 214 |  | 12,135 |
| Security lending expenses |  |  |  |  |  |
| Interest (expense) / rebate | 1,227 |  | 21 |  | 1,248 |
| Management fees | $(1,397)$ |  | (24) |  | $(1,421)$ |
| Unrealized loss |  |  |  |  |  |
| Total securities lending activities expense | (170) |  | (3) |  | (173) |
| Net income from securities lending activities | 11,751 |  | 211 |  | 11,962 |
| Total net investment income | 2,819,518 |  | 52,779 |  | 2,872,297 |
| TOTAL ADDITIONS | \$ 4,465,310 | \$ | 52,967 | \$ | 4,518,277 |
| Deductions |  |  |  |  |  |
| Retirement and disability benefits | 1,980,574 |  | 50,545 |  | 2,031,119 |
| Survivor benefits | 26,166 |  | 306 |  | 26,472 |
| Refunds to withdrawing members, including interest | 145,833 |  | 8,311 |  | 154,144 |
| Administrative expenses | 27,762 |  | 475 |  | 28,237 |
| Transfers to other plans | 11,455 |  | - |  | 11,455 |
| Other | 343 |  | - |  | 343 |
| TOTAL DEDUCTI ONS | 2,192,133 |  | 59,637 |  | 2,251,770 |
| NET INCREASE (DECREASE) | 2,273,177 |  | $(6,670)$ |  | 2,266,507 |
| NET ASSETS HELD IN TRUST FOR PENSION BENEFITS |  |  |  |  |  |
| Beginning of year | 19,506,243 |  | 374,210 |  | 19,880,453 |
| End of year | \$ 21,779,420 | \$ | 367,540 |  | 2,146,960 |

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 Assets and Changes in Retirement Net Assets are presented here to provide members with more detailed information about the two plan components.

## 2010 Comprehensive Annual Financial Report

## Additional Supplementary I nformation

## Schedule of Additions by Source

(Dollars in Thousands)

| Year | Employee Contribution Made |  | Employer Contribution Made |  | Net <br> Investment Income (Loss) |  | Purchased Service and Other |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2001 | \$ | 163,442 | \$ | 163,442 | \$ | $(1,528,691)$ | \$ | 37,687 | \$ | $(1,164,120)$ |
| 2002 |  | 168,213 |  | 168,213 |  | $(1,768,077)$ |  | 51,350 |  | $(1,380,301)$ |
| 2003 |  | 177,157 |  | 177,157 |  | 368,631 |  | 93,552 |  | 816,497 |
| 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 |

## Schedule of Deductions by Type

(Dollars in Thousands)

|  |  | Administration <br> Transfers and <br> Other |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: |
| Year | Benefits | Refunds | Total |  |  |  |  |
| 2001 | $\$$ | 909,615 | $\$$ | 98,535 | $\$$ |  |  |
| 2002 | $1,069,044$ | 42,765 | 24,640 | $\$$ | $1,032,790$ |  |  |
| 2003 | $1,222,564$ | 35,976 | 28,105 | $1,139,914$ |  |  |  |
| 2004 | $1,396,481$ | 36,212 | 37,877 | $1,296,417$ |  |  |  |
| 2005 | $1,576,734$ | 44,164 | 35,745 | $1,468,438$ |  |  |  |
| 2006 | $1,703,215$ | 60,313 | 33,426 | $1,654,324$ |  |  |  |
| 2007 | $1,824,865$ | 77,910 | 39,395 | $1,802,923$ |  |  |  |
| 2008 | $1,944,283$ | 104,387 | 47,703 | $1,950,478$ |  |  |  |
| 2009 | $2,072,813$ | 120,689 | 210,432 | $2,259,102$ |  |  |  |
| 2010 | $2,214,722$ | 154,144 | 38,834 | $2,232,336$ |  |  |  |

# Additional Supplementary I nformation 

## Schedule of Professional Consultant Fees

For Year Ended June 30, 2010
(Dollars in Thousands)

| Professional/ Consultant | Nature Of Service | Expenses |  |
| :---: | :---: | :---: | :---: |
| Sedgwick Claims Management Services | LTD Administrative Services | \$ | 2,791 |
| Comsys Information Technology Services | IT And Other Consulting Services |  | 1,574 |
| Buck Consultants LLC | Actuarial Services |  | 891 |
| Meketa Investment Group | I nvestment Consulting Services |  | 746 |
| State Street Bank And Trust Company | Pension Payment Services And Custodial Bank Services |  | 619 |
| Mellon Bank Trust \& Investments | Pension Payment Services And Custodial Bank Services |  | 609 |
| New England Pension Consultants | Pension Consulting Services |  | 452 |
| The Townsend Group | I nvestment Consulting Services |  | 360 |
| DLJ Mb Advisors Inc | Investment Back Office Services |  | 346 |
| Provincia Staffing LLC | Temporary Staffing Services |  | 322 |
| Foley And Lardner LLP | Investment Legal Services |  | 177 |
| Arizona State Attorney General Office | Legal Services |  | 171 |
| Institutional Shareholder | I nvestment Consulting Services |  | 129 |
| Ennis Knupp and Associate, Inc | I nvestment Consulting Services |  | 117 |
| Heinfeld Meech And Co PC | Audit Services |  | 94 |
| Mercer Investment Consulting | Investment Consulting Services |  | 46 |
| Qwest Communication Corp | Professional Consulting |  | 43 |
| Callan Associates Inc | I nvestment Consulting Services |  | 40 |
| Campbell And Mahoney Chtd | Legal Services |  | 37 |
| Cavanaugh Macdonald Consulting Inc | Actuarial Services |  | 35 |
| CEM Benchmarking Inc | Plan Administration Consulting |  | 35 |
| Lexis Nexis | Research Services |  | 30 |
| DRC Financial Services PLLC | Accounting Consulting Services |  | 29 |
| Cox Castle And Nicholson | I nvestment Legal Services |  | 36 |
| Dell Marketing | IT Consulting Services |  | 23 |
| Charles W Whetstine | Legal Services |  | 23 |
| Ra Mahler Consulting LLC | Professional Consulting |  | 19 |
| Other Consulting Fees (Less Than Fifteen Thousand Dollars) |  |  | 69 |
| TOTAL |  | \$ | 9,863 |

## Additional Supplementary Information

## Schedule of Administrative Expenses

For Year Ended June 30, 2010
(Dollars in Thousands)

|  | Retirement and Health Benefit Supplement |  | Long-Term Disability |  | $\begin{gathered} \text { Combined } \\ 2010 \\ \hline \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PERSONNEL SERVICES |  |  |  |  |  |  |
| Salaries | \$ | 12,003 | \$ | - | \$ | 12,003 |
| Retirement Contributions |  | 979 |  | - |  | 979 |
| Other Employee Related Expenses |  | 3,274 |  | - |  | 3,274 |
| Total Personnel Services |  | 16,256 |  | - |  | 16,256 |
| PROFESSIONAL SERVICES |  |  |  |  |  |  |
| Actuary \& Benefit Consulting |  | 926 |  | - |  | 926 |
| Audit, Consulting \& Legal Fees |  | 563 |  | - |  | 563 |
| Programming Costs |  | 1,357 |  | 29 |  | 1,386 |
| Other Outside Services |  | 4,197 |  | 2,791 |  | 6,988 |
| Total Professional Services |  | 7,043 |  | 2,820 |  | 9,863 |
| COMMUNICATIONS |  |  |  |  |  |  |
| Postage and Delivery |  | 933 |  | - |  | 933 |
| External Printing |  | 174 |  | - |  | 174 |
| Telephone |  | 339 |  | - |  | 339 |
| Advertising |  | 4 |  | - |  | 4 |
| Total Communications |  | 1,450 |  | - |  | 1,450 |
| MISCELLANEOUS |  |  |  |  |  |  |
| Office Rent |  | 2,236 |  | - |  | 2,236 |
| Furniture \& Equipment |  | 387 |  | - |  | 387 |
| Software \& Support |  | 1,139 |  | - |  | 1,139 |
| Repair \& Maintenance |  | 119 |  | - |  | 119 |
| Travel |  | 75 |  | - |  | 75 |
| Operating Supplies |  | 85 |  | - |  | 85 |
| Insurance |  | 157 |  | - |  | 157 |
| Dues \& Subscriptions |  | 453 |  | - |  | 453 |
| Education \& Training |  | 91 |  | - |  | 91 |
| Miscellaneous |  | 12 |  | - |  | 12 |
| Total Miscellaneous |  | 4,754 |  | - |  | 4,754 |
| TOTAL | \$ | 29,503 | \$ | 2,820 | \$ | 32,323 |

## Additional Supplementary I nformation

## Schedule of Total I nvestment I ncome by Manager

For Year Ended J une 30, 2010
(Dollars in Thousands)

|  | Market Appreciation (Depreciation) |  | Interest |  | Dividends |  | Real Estate Revenue |  | Private Equity Revenue |  | Opportunistic Revenue |  | Other | Total Investment Income |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Accel-KKR III | \$ | - | \$ | - | \$ | - | \$ | - | \$ | 865 | \$ | - | \$ | \$ | 865 |
| AEW Value Investors Fund II, LP |  | - |  | - |  | - |  | $(3,463)$ |  | - |  | - | - |  | $(3,463)$ |
| AEW Core Property Trust |  | - |  | - |  | - |  | 2,025 |  | - |  | - | - |  | 2,025 |
| AIG Asian Fund |  | - |  | - |  | - |  | 165 |  | - |  |  |  |  | 165 |
| Apollo Fund VII |  | - |  | - |  | - |  | - |  | 8,535 |  | - | - |  | 8,535 |
| ASRS Internal |  | 946,704 |  | 128,157 |  | 115,423 |  | 8,435 |  | - |  | - | $(2,388)$ |  | 1,196,331 |
| Atlas Venture |  | - |  | - |  | - |  | - |  | 343 |  | - | - |  | 343 |
| AXA Rosenberg |  | 25,148 |  | 1 |  | 5,224 |  | - |  | - |  | - | - |  | 30,373 |
| Barclays Global Investors |  | 305,689 |  | - |  | - |  | - |  | - |  | - | 7 |  | 305,696 |
| Blackrock |  | 42,262 |  | 21,700 |  | - |  | - |  | - |  | - | 21 |  | 63,983 |
| Blackrock Credit Investors II, LP |  | - |  | - |  | - |  | - |  | - |  | 7,867 | - |  | 7,867 |
| Blackrock Mortgage Investors, LP |  | - |  | - |  | - |  | - |  | - |  | 30,177 | - |  | 30,177 |
| Brandes Investment Partners International Equity |  | 16,850 |  | 17 |  | 39,710 |  | - |  | - |  | - | 41 |  | 56,618 |
| Blackstone Real Estate Partners VI, LP |  | - |  | - |  | - |  | (578) |  | - |  | - | - |  | (578) |
| Bridgepoint Europe IV |  | - |  | - |  | - |  | - |  | (51) |  | - | - |  | (51) |
| Bridgewater Associates Global TAA |  | 275,842 |  | 3,748 |  | 20,323 |  | - |  | - |  | - | (816) |  | 299,097 |
| TRECAP Commercial Realty Partners III, LP |  | - |  | - |  | - |  | $(8,664)$ |  | - |  | - | - |  | $(8,664)$ |
| CBRE US Opportunities V |  | - |  | - |  | - |  | $(8,072)$ |  | - |  | - | - |  | $(8,072)$ |
| CBRE Strategic Partners Value V |  | - |  | - |  | - |  | (139) |  | - |  | - | - |  | (139) |
| Champlain Investment Partners |  | 14,984 |  | 14 |  | 1,267 |  | - |  | - |  | - | - |  | 16,265 |
| CIM Fund III, LP |  | - |  | - |  | - |  | (653) |  | - |  | - | - |  | (653) |
| CIM Urban REIT, LP |  | - |  | - |  | - |  | $(2,210)$ |  | - |  | - | - |  | $(2,210)$ |
| CC Media Holdings, Inc. Class A |  | 1,079 |  | - |  | - |  | - |  | - |  | - | - |  | 1,079 |
| CMEA Venture VIII, LP |  | - |  | - |  | - |  | - |  | (47) |  | - | - |  | (47) |
| Colony Investors VIII, LP |  | - |  | - |  | - |  | 2,398 |  | - |  | - | - |  | 2,398 |
| Columbia Small Cap |  | - |  | - |  | - |  | - |  | - |  | - | 19 |  | 19 |
| Copper Rock Capital Partners |  | 9,502 |  | 3 |  | 533 |  | - |  | - |  | - | - |  | 10,038 |
| Credit Suisse Alternative Capital, Inc. |  | 9,787 |  | 2,342 |  | - |  | - |  | - |  | - | 4,583 |  | 16,712 |
| Cramer Rosenthal McGynn Mid Cap Value |  | 9,750 |  | 12 |  | 1,640 |  | - |  | - |  | - | - |  | 11,402 |
| Crown European Buyout Opportunities II, LP |  | - |  | - |  | - |  | - |  | 1,339 |  | - | - |  | 1,339 |
| CVC European Equity Partners V, LP |  | - |  | - |  | - |  | - |  | 2,316 |  | - | - |  | 2,316 |
| QS Investors, LLC |  | 38,737 |  | 3,105 |  | 6,255 |  | - |  | - |  | - | (150) |  | 47,947 |
| Dimensional Fund Advisors International Small Cap |  | 8,105 |  | 1 |  | 3,177 |  | - |  | - |  | - | 1 |  | 11,284 |
| Dimensional Fund Advisors Equity Fund |  | 103,626 |  | 4 |  | 5,057 |  | - |  | - |  | - | 50 |  | 108,737 |
| Dune Real Estate Fund, LP |  | - |  | - |  | - |  | $(2,739)$ |  | - |  | - | - |  | $(2,739)$ |
| Dune Real Estate Fund II, LP |  | - |  | - |  | - |  | 794 |  | - |  | - | - |  | 794 |
| Energy Capital |  | - |  | - |  | - |  | - |  | 655 |  | - | - |  | 655 |
| European Investors Global Real Estate Securities |  | 8,201 |  | 5 |  | 1,398 |  | - |  | - |  | - | 28 |  | 9,632 |
| First Reserve Fund XII, LP |  | - |  | - |  | - |  | - |  | $(1,578)$ |  | - | - |  | $(1,578)$ |
| Five Mile Capital Partners II, LP |  | - |  | - |  | - |  | (40) |  | - |  | - | - |  | (40) |
| Forum Securities, LTD |  | $(2,034)$ |  | 1 |  | 1,144 |  | - |  | - |  | - | (26) |  | (915) |
| Blackstone/GSO Capital Solutions Fund, LP |  | - |  | - |  | - |  | - |  | - |  | 3,554 | - |  | 3,554 |
| Guggenheim Partners Asset Management |  | 34,858 |  | 9,337 |  | 85 |  | - |  | - |  | - | 6,519 |  | 50,799 |
| Hansberger Global Investors, LC |  | 42,451 |  | 8 |  | 12,548 |  | - |  | - |  | - | (9) |  | 54,998 |
| Heitman Value Partners II, LP |  | - |  | - |  | - |  | $(2,341)$ |  | - |  | - | - |  | $(2,341)$ |
| Hines US Core Office Fund, LP |  | - |  | - |  | - |  | (430) |  | - |  | - | - |  | (430) |
| Hyperion Asset Management |  | 22,564 |  | 8,149 |  | - |  | - |  | - |  | - | 7,250 |  | 37,963 |
| IDG Ventures SF, LP |  | - |  | - |  | - |  | - |  | (246) |  | - | 174 |  | (72) |
| Intech Large Cap |  | 63,909 |  | 8 |  | 8,430 |  | - |  | - |  | - | - |  | 72,347 |
| Ironbridge Capital Management |  | 18,809 |  | 9 |  | 1,859 |  | - |  | - |  | - | - |  | 20,677 |
| Jacobs Levy Equity Management |  | 18,070 |  | (39) |  | 3,500 |  | - |  | - |  | - | 16 |  | 21,547 |
| JLL Partners Fund VI, LP |  | - |  | - |  | - |  | - |  | 4,906 |  | - | - |  | 4,906 |
| Lasalle Investment Management |  | 10,904 |  | - |  | 760 |  | - |  | - |  | - | 41 |  | 11,705 |

## Additional Supplementary I nformation

## Schedule of Total I nvestment I ncome by Manager (continued)

For Year Ended June 30, 2010
(Dollars in Thousands)

|  | Market <br> Appreciation (Depreciation) | Interest | Dividends | Real Estate Revenue | Private Equity Revenue | Opportunistic Revenue | Other | Total Investment Income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Levine Leichman Capital Partners IV, LP | - | - | - | - | 2,602 | - | - | 2,602 |
| Linconshire Equity Fund IV-A, LP | - | - | - | - | (101) | - | - | (101) |
| LLR Equity Partners III, LP | - | - | - | - | 437 | - | - | 437 |
| Lone Star Real Estate Fund (US), LP | - | - | - | 2,125 | - | - | - | 2,125 |
| Lone Star Fund VI (US), LP | - | - | - | 9,296 | - | - | - | 9,296 |
| LSV Asset Management | 76,977 | 11 | 11,229 | - | - | - | 154 | 88,371 |
| Maranon Mezzanine, LP | - | - | - | - | 812 | - | - | 812 |
| MFS Institutional Advisors International Large Cap | 83,360 | 20 | 20,301 | - | - | - | 142 | 103,823 |
| Montreux Equity Partners IV, LP | - | - | - | - | 496 | - | - | 496 |
| Nautic Partners IV, LP | - | - | - | - | 274 | - | - | 274 |
| New Atlantic Ventures Fund III, LP | - | - | - | - | (188) | - | - | (188) |
| New Mountain Partners III, LP | - | - | - | - | 466 | - | - | 466 |
| Oakhill Capital Partners III, LP | - | - | - | - | (387) | - | - | (387) |
| Onex Partners III, LP | - | - | - | - | 209 | - | - | 209 |
| Pacific Investment Management Company | 17,683 | 13,799 | - | - | - | - | (521) | 30,961 |
| Partners Group Secondary 2008, LP | - | - | - | - | 1,857 | - | - | 1,857 |
| Paul Capital Partners IX, LP | - | - | - | - | 3,218 | - | - | 3,218 |
| Peninsula Technology Ventures, LP | - | - | - | - | (188) | - | - | (188) |
| Pine Brook Capital Partners, LP | - | - | - | - | 3,946 | - | - | 3,946 |
| PLA Residential III, LP | - | - | - | 5,563 | - | - | - | 5,563 |
| PLA Retail Fund I, LP | - | - | - | 4,540 | - | - | - | 4,540 |
| Platinum Equity Capital Partner II, LP | - | - | - | - | 7,303 | - | - | 7,303 |
| PRISA II | - | - | - | $(9,511)$ | - | - | - | $(9,511)$ |
| Pyramis Global | 34,537 | 15,749 | - | - | - | - | 751 | 51,037 |
| Quantum Energy Partners V, LP | - | - | - | - | (275) | - | - | (275) |
| The Resolute Fund II, LP | - | - | - | - | 815 | - | - | 815 |
| Riversource Investments, LLC | 605 | 7,906 | - | - | - | - | 293 | 8,804 |
| Five Arrows Reality Securities IV, LP | - | - | - | 5,280 | - | - | - | 5,280 |
| Five Arrows Reality Securities V, LP | - | - | - | 659 | - | - | - | 659 |
| RREEF Global Opportunities Fund II | - | - | - | $(7,126)$ | - | - | - | $(7,126)$ |
| Saybrook Corporate Opportunity Fund, LP | - | - | - | - | 3,535 | - | - | 3,535 |
| Segall Bryant \& Hamill Investments | 5,292 | 4,538 | - | - | - | - | $(1,087)$ | 8,743 |
| Shenkman Capital Management | 2,294 | 7,143 | - | - | - | - | 863 | 10,300 |
| Silver Lake Partners III, LP | - | - | - | - | 5,214 | - | - | 5,214 |
| State Street Global Advisors Mid Cap Fund | 100,598 | - | 543 | - | - | - | - | 101,141 |
| TCW Credit Opportunities Fund, LP | - | - | - | - | - | 32,059 | - | 32,059 |
| TCW Capital Trust | - | - | - | - | - | 7,422 | - | 7,422 |
| TCW Crecent Mezzanine Partners V, LP | - | - | - | - | 3,277 | - | - | 3,277 |
| Thomas H. Lee Equity Fund VI, LP | - | - | - | - | (48) | - | - | (48) |
| Carlyle Realty Partners V, LP | - | - | - | 3,422 | - | - | - | 3,422 |
| Timessquare Capital Management | 79,406 | 39 | 3,586 | - | - | - | - | 83,031 |
| Tishmans Speyer Real Estate Venture VI, LP | - | - | - | $(7,059)$ | - | - | - | $(7,059)$ |
| Tishmans Speyer Real Estate Venture VII, LP | - | - | - | $(2,034)$ | - | - | - | $(2,034)$ |
| Warburg Pincus Private Equity X, LP | - | - | - | - | 3,254 | - | - | 3,254 |
| Wayzata Opportunities Fund II, LP | - | - | - | - | 17,803 | - | - | 17,803 |
| Wellington Management Co | 57,480 | 30 | 3,338 | - | - | - | 16 | 60,864 |
| Westbrook Real Estate Fund VII | - | - | - | $(9,100)$ | - | - | - | $(9,100)$ |
| Westbrook Real Estate Fund VIII | - | - | - | (199) | - | - | - | (199) |
| White Deer Energy, LP | - | - | - | - | 636 | - | - | 636 |
| Yucaipa American Alliance Fund II, LP | - | - | - | - | 5,313 | - | - | 5,313 |
| Total | \$ 2,484,029 | \$ 225,817 | \$ 267,330 | \$(19,656) | \$77,317 | \$ 81,079 | \$ 15,972 | \$ 3,131,888 |

# Additional Supplementary I nformation 

## Schedule of Total I nvestment Expenses by Manager

For Year Ended J une 30, 2010
(Dollars in Thousands)

| Accel-KKRIII | Public <br> MANAGEMENT FEES |  | Real Estate |  | Private Equity |  |  |  | Opportunistic |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | MANAGEMENT FEES | OTHER EXPENSES | MANAGEMENT FEES |  | OTHER EXPENSES |  | MANAGEMENTFEES |  | OTHER EXPENSES |  |  |  |
|  | \$ | 1,289 | \$ | \$ | \$ | 651 | \$ | 61 | \$ | - | \$ | - | \$ | 2,001 |
| AEW Value Investors Fund II, LP |  | - | 190 | 65 |  | - |  | - |  | - |  | - |  | 255 |
| AEW Core Property Trust |  | - | 105 | - |  | - |  | - |  | - |  | - |  | 105 |
| AIG Asian Fund |  | - | 570 | - |  | - |  | - |  | - |  | - |  | 570 |
| Atlas Venture |  | - | - | - |  | 294 |  | 9 |  | - |  | - |  | 303 |
| Apollo Fund VII |  | - | - | - |  | 436 |  | 152 |  | - |  | - |  | 588 |
| ASRS Internal |  | 596 | - | 23,449 |  | - |  | - |  | - |  | - |  | 24,045 |
| Barclays Global Investors |  | 1,431 | - | - |  | - |  | - |  | - |  | - |  | 1,431 |
| Blackrock |  | 1,844 | - | - |  | - |  | - |  | - |  | - |  | 1,844 |
| Blackrock Credit Investors II, LP |  | - | - | - |  | - |  | - |  | 16 |  | 588 |  | 604 |
| Blackrock Mortgage Investors, LP |  | - | - | - |  | - |  | - |  | 563 |  | 633 |  | 1,196 |
| Brandes Investment Partners International Equity |  | 5,248 | - | - |  | - |  | - |  | - |  | - |  | 5,248 |
| Blackstone Real Estate Partners VI, LP |  | - | 668 | - |  | - |  | - |  | - |  | - |  | 668 |
| Bridgepoint Europe IV |  | - | - | - |  | 631 |  | 38 |  | - |  | - |  | 669 |
| Bridgewater Associates Global TAA |  | 8,465 | - | - |  | - |  | - |  | - |  | - |  | 8,465 |
| TRECAP Commercial Realty Partners III, LP |  | - | 625 | - |  | - |  | - |  | - |  | - |  | 625 |
| CBRE US Opportunities V |  | - | 163 | - |  | - |  | - |  | - |  | - |  | 163 |
| CBRE Strategic Partners Value V |  | - | 141 | 13 |  | - |  | - |  | - |  | - |  | 154 |
| Champlain Investment Partners |  | 952 | - | - |  | - |  | - |  | - |  | - |  | 952 |
| CIM Fund III, LP |  | - | 725 | - |  | - |  | - |  | - |  | - |  | 725 |
| CIM Urban REIT, LP |  | - | 655 | - |  | - |  | - |  | - |  | - |  | 655 |
| CMEA Venture VIII, LP |  | - | - | - |  | 146 |  | 18 |  | - |  | - |  | 164 |
| Colony Investors VIII, LP |  | - | (169) | - |  | - |  | - |  | - |  | - |  | (169) |
| Columbia Small Cap |  | 386 | - | - |  | - |  | - |  | - |  | - |  | 386 |
| Copper Rock Capital Partners |  | 606 | - | - |  | - |  | - |  | - |  | - |  | 606 |
| Cramer Rosenthal McGynn Mid Cap Value |  | 607 | - | - |  | - |  | - |  | - |  | - |  | 607 |
| Credit Suisse Alternative Capital, Inc. |  | 998 | - | - |  | - |  |  |  | - |  | - |  | 998 |
| Crown European Buyout Opportunities II, LP |  | - | - | - |  | 158 |  | 350 |  | - |  | - |  | 508 |
| CVC European Equity Partners V, LP |  | - | - | - |  | 564 |  | 82 |  | - |  | - |  | 646 |
| QS Investors, LLC |  | 2,784 | - | - |  | - |  | - |  | - |  | - |  | 2,784 |
| Dimensional Fund Advisors Equity Fund |  | 574 | - | - |  | - |  | - |  | - |  | - |  | 574 |
| Dimensional Fund Advisors International Small Cap |  | 1,286 | - | - |  | - |  | - |  | - |  | - |  | 1,286 |
| Dune Real Estate Fund, LP |  | - | 683 | 99 |  | - |  | - |  | - |  | - |  | 782 |
| Dune Real Estate Fund II, LP |  | - | 676 | 163 |  | - |  | - |  | - |  | - |  | 839 |
| Energy Capital |  | - | - | - |  | 412 |  | 133 |  | - |  | - |  | 545 |
| European Investors Global Real Estate Securities |  | 326 | - | - |  | - |  | - |  | - |  | - |  | 326 |
| First Reserve XII, LP |  | - | - | - |  | 763 |  | 20 |  | - |  | - |  | 783 |
| Five Mile Capital Partners II, LP |  | - | 750 | 376 |  | - |  | - |  | - |  | - |  | 1,126 |
| Forum Securities, LTD |  | 145 | - | - |  | - |  | - |  | - |  | - |  | 145 |
| Blackstone/GSO Capital Solutions Fund, LP |  | - | - | - |  | - |  | - |  | - |  | 1,502 |  | 1,502 |
| Guggenheim Partners Asset Management |  | 1,318 | - | - |  | - |  | - |  | - |  | - |  | 1,318 |
| Hansbeger Global Investors, LC |  | 2,721 | - | - |  | - |  | - |  | - |  | - |  | 2,721 |
| Heitman Value Partners II, LP |  | - | 97 | - |  | - |  | - |  | - |  | - |  | 97 |
| Hines US Core Office Fund, LP |  | - | 60 | 20 |  | - |  | - |  | - |  | - |  | 80 |
| Hyperion Asset Management |  | 1,220 | - | - |  | - |  | - |  | - |  | - |  | 1,220 |
| IDG Ventures SF, LP |  | - | - | - |  | 192 |  | 21 |  | - |  | - |  | 213 |
| Intech Large Cap |  | 2,089 | - | - |  | - |  | - |  | - |  | - |  | 2,089 |
| Ironbridge Capital Management |  | 928 | - | - |  | - |  | - |  | - |  | - |  | 928 |
| J acobs Levy Equity Management |  | 719 | - | - |  | - |  | - |  | - |  | - |  | 719 |
| JLL Partners Fund VI, LP |  | - | - | - |  | 500 |  | 92 |  | - |  | - |  | 592 |

# Additional Supplementary I nformation 

## Schedule of Total Investment Expenses by Manager (continued)

For Year Ended June 30, 2010
(Dollars in Thousands)

|  | Public |  | Real Estate |  |  | Private Equity |  |  | Opportunistic |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MANAGEMENT FEES |  | MANAGEMENT FEES |  | OTHER EXPENSES | MANAGEMENT FEES |  | OTHER EXPENSES | MANAGEMENT FEES | OTHER EXPENSES |  |
| Lasalle Investment Management |  | 140 |  | - | - |  | - | - | - | - | 140 |
| Levine Leichman Capital Partners IV, LP |  | - |  | - | - |  | 1,869 | (45) | - | - | 1,824 |
| Linconshire Equity Fund IV-A, LP |  |  |  | - | - |  | 150 | 184 | - | - | 334 |
| LLR Equity Partners III, LP |  | - |  | - | - |  | 570 | - | - | - | 570 |
| Lone Star Real Estate Fund (US), LP |  | - |  | 202 | - |  | - | - | - | - | 202 |
| Lone Star Fund VI (US), LP |  | - |  | 511 | - |  | - | - | - | - | 511 |
| LSV Asset Management |  | 1,416 |  | - | - |  | - | - | - | - | 1,416 |
| Maranon Mezzanine, LP |  | - |  | - | - |  | 938 | 247 | - | - | 1,185 |
| MFS Instituitional Advisors International Large Cap |  | 3,094 |  | - | - |  | - | - | - | - | 3,094 |
| Montreux Equity Partners IV, LP |  | - |  | - | - |  | 154 | 59 | - | - | 213 |
| Nautic Partners IV, LP |  | - |  | - | - |  | 670 | 118 | - | - | 788 |
| New Atlantic Ventures Fund III, LP |  | - |  | - | - |  | 59 | 59 | - | - | 118 |
| New Mountain Partners III, LP |  | - |  | - | - |  | 568 | 174 | - | - | 742 |
| Oakhill Capital Partners III, LP |  | - |  | - | - |  | 1,109 | 496 | - | - | 1,605 |
| Onex Partners III, LP |  | - |  | - | - |  | 939 | 44 | - | - | 983 |
| Pacific Investment Management Company |  | 727 |  | - | - |  | - | - | - | - | 727 |
| Partners Group Secondary 2008, LP |  | - |  | - | - |  | 806 | 761 | - | - | 1,567 |
| Paul Capital Partners IX, LP |  | - |  | - | - |  | 466 | 301 | - | - | 767 |
| Peninsula Technology Ventures, LP |  | - |  | - | - |  | 115 | 35 | - | - | 150 |
| Pine Brook Capital Partners, LP |  | - |  | - | - |  | 798 | - | - | - | 798 |
| PLA Residential III, LP |  | - |  | 497 | - |  | - | - | - | - | 497 |
| PLA Retail Fund I, LP |  | - |  | 909 | 116 |  | - | - | - | - | 1,025 |
| Platinum Equity Capital Partner II, LP |  | - |  | - | - |  | 149 | 208 | - | - | 357 |
| PRISA II |  | - |  | 369 | - |  | - | - | - | - | 369 |
| Pyramis Global |  | 737 |  | - | - |  | - | - | - | - | 737 |
| Quantum Energy Partners V, LP |  | - |  | - | - |  | 555 | 120 | - | - | 675 |
| The Resolute Fund II, LP |  | - |  | - | - |  | 425 | 15 | - | - | 440 |
| Five Arrows Realty Securities IV, LP |  | - |  | 649 | (356) |  | - | - | - | - | 293 |
| Five Arrows Realty Securities V, LP |  | - |  | 531 | 28 |  | - | - | - | - | 559 |
| RREEF Global Opportunities Fund II |  | - |  | 887 | 129 |  | - | - | - | - | 1,016 |
| Saybrook Corporate Opportunities Fund, LP |  | - |  | - | - |  | 376 | - | - | - | 376 |
| Segall Bryant \& Hamill Investments |  | 172 |  | - | - |  | - | - | - | - | 172 |
| Shenkman Capital Management |  | 432 |  | - | - |  | - | - | - | - | 432 |
| Silver Lake Partners III, LP |  | - |  | - | - |  | 429 | 6 | - | - | 435 |
| State Street Global Advisors Mid Cap Fund |  | 91 |  | - | - |  | - | - | - | - | 91 |
| TCW Capital Trust |  | - |  | - | - |  | - | - | 1,502 | - | 1,502 |
| TCW Credit Opportunities Fund, LP |  | - |  | - | - |  | - | - | 869 | 19 | 888 |
| TCW Cresent Mezzanine Partners V, LP |  | - |  | - | - |  | 1,008 | - | - | - | 1,008 |
| Thomas H. Lee Equity Fund VI, LP |  | - |  | - | - |  | 245 | - | - | - | 245 |
| Carlyle Realty Partners V, LP |  | - |  | 563 | 8 |  | - | - | - | - | 571 |
| Timessquare Capital Management |  | 3,282 |  | - | - |  | - | - | - | - | 3,282 |
| Tishman Speyer Real Estate Venture VI, LP |  | - |  | 236 | 166 |  | - | - | - | - | 402 |
| Tishman Speyer Real Estate Venture VII, LP |  | - |  | 692 | 336 |  | - | - | - | - | 1,028 |
| Warburg Pincus Private Equity X, LP |  | - |  | - | - |  | 562 | 136 | - | - | 698 |
| Wayzata Opportunities Fund II, LP |  | - |  | - | - |  | 309 | 482 | - | - | 791 |
| Wellington Management Co |  | 1,803 |  | - | - |  | - | - | - | - | 1,803 |
| Westbrook Real Estate Fund VII |  | - |  | 449 | 166 |  | - | - | - | - | 615 |
| Westbrook Real Estate Fund VIII |  | - |  | 279 | - |  | - | - | - | - | 279 |
| White Deer Energy, LP |  | - |  | - | - |  | 710 | 761 | - | - | 1,471 |
| Yucaipa American Alliance Fund II, LP |  | - |  | - | - |  | 555 | 143 | - | - | 698 |
| Total | \$ | 48,426 | \$ | 12,713 | \$24,778 | \$ | 19,281 | \$ 5,280 | \$ 2,950 | \$ 2,742 | \$116,170 |

## Arizona State Retirement System

A Component Unit of the State of Arizona


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# I nvestment Report <br> U.S. Economy and Capital Markets FY 2009-10 

By Tom Connelly, Investment Committee Chairman, and Gary R. Dokes, Chief Investment Officer

## 3rd Quarter 2009

The economy was negatively impacted by continued deleveraging in the consumer and corporate sectors, a continued high level of unemployment, and the ongoing housing recession. GDP contracted by $2.7 \%$ for the quarter. The unemployment rate rose to $9.8 \%$ from $9.5 \%$ in the previous quarter. The CPI Index fell by $1.3 \%$ year-over-year. The Fed Funds rate remained unchanged during the quarter with a range of $0.00 \%$ to $0.25 \%$.

The domestic large cap and international equity markets rose sharply during the quarter. The S\&P 500 Index was up $15.6 \%$, trailing both mid caps and trailing small caps. The S\&P MidCap Index was up 20.0\% during the quarter and the S\&P SmallCap Index increased 18.7\%. Value outperformed growth across the cap spectrums. International equity markets were even more positive in negative territory. The MSCI EAFE Index improved $19.5 \%$ for the quarter. The MSCI ACWI ex U.S. Index rose by $17.9 \%$ for the quarter. Australia was up $33.1 \%$ while Greece and the Netherlands increased $32.8 \%$ and $31.2 \%$ respectively in the developed markets while the emerging markets were paced by Asia-based stocks Emerging markets outperformed their developed market counterparts. The MSCI EM Index appreciated 20.9\%.

The Barclays Aggregate Index lagged the domestic equity markets but advanced $3.7 \%$ during the quarter. High yield rallied strongly while CMBS and corporates were the top performing sectors in the Barclays Aggregate Index as investors searched for yield. Long duration bonds outperformed intermediate term issues. Higher-quality issues outperformed lower-quality issues
in the investment credit space. Mortgages returned 2.3\% while Treasuries also advanced 2.3\%.

REITs exhibited strong performance for the quarter; the FTSE NAREIT Index rose 33.3\%. Private real estate fared worse; the NCREIF Property Index was down $5.2 \%$ for the quarter.

## 4th Quarter 2009

The economy ended the year with excess productive capacity and persistently high unemployment rate. The equity market rally lost steam but fear indicators abated as GDP turned positive. GDP expanded $0.2 \%$ for the quarter. The unemployment rate rose to $10.0 \%$ from $9.8 \%$ in the third quarter. The CPI index rose by $2.7 \%$ year-over-year. The Fed Funds rate remained unchanged during the quarter with a range of $0.00 \%$ to $0.25 \%$.

The developed domestic and international equity markets both posted modest gains for the quarter. The S\&P 500 increased $6.0 \%$ during the fourth quarter, outperforming small caps and mid caps. The S\&P MidCap Index rose $5.6 \%$ while the S\&P SmallCap Index rose $5.1 \%$. Growth outperformed value across the cap spectrums. International equity markets were also in positive territory. The MSCI EAFE Index increased 2.2\% for the quarter. The MSCI ACWI ex U.S. Index rose by $3.7 \%$. Stocks in the Pacific region outpaced those in Europe in the developed markets although the UK was a pocket of strength. Emerging markets outperformed their developed market counterparts. The MSCI EM Index appreciated 8.6\%.

## I nvestment Report

The Barclays Aggregate Index performed worse than the developed equity markets but advanced $0.2 \%$ during the quarter. Shorter-term issues outperformed longerterm issues. High yield again exhibited strong performance with CMBS and corporate being the strongest investment grade performers. Lower-quality issues outperformed higher-quality issues in the investment credit space. Mortgages returned $0.6 \%$ during the quarter while Treasuries fell $1.3 \%$ during the quarter.

REITs exhibited positive performance; the FTSE NAREIT Index declined 9.4\% for the quarter. Private real estate fared worse; the NCREIF Property Index was down $3.3 \%$ for the quarter.

## 1st Quarter 2010

Sovereign debt concerns heightened, particularly in Greece, and domestic economic conditions were mixed. Unemployment remained persistently high while GDP growth exhibited a rebound. GDP expanded $2.4 \%$ for the quarter. The unemployment rate fell to $9.7 \%$ from $10.0 \%$ in the fourth quarter. The CPI Index rose $2.3 \%$ year-over-year. The Fed Funds rate was left unchanged with a range of $0.00 \%$ to $0.25 \%$.

The equity markets had a mediocre quarter domestically and internationally. The S\&P 500 increased $5.4 \%$ during the first quarter, underperforming mid caps and outperforming small caps. The S\&P MidCap Index rose $9.1 \%$ while the S\&P SmallCap Index appreciated $8.6 \%$. Value outperformed growth across the cap spectrums. International equity markets were also in positive territory. The MSCI EAFE Index increased 0.9\% for the quarter. The MSCI ACWI ex U.S. Index rose by $1.6 \%$. Japan exhibited strength among developed markets while emerging markets were led by European and Middle Eastern based securities. Emerging markets fared better than their developed counterparts. The MSCI EM Index rose $2.4 \%$ for the quarter.

The Barclays Aggregate Index lagged the equity markets but advanced $1.8 \%$ during the quarter. Interme-diate-term issues outperformed shorter-term issues. Lower-quality issues outperformed higher-quality issues in the investment credit space as high yield rallied. Mortgages returned $1.5 \%$ while Treasuries rose by 1.1\%.

REITs posted positive returns in the second quarter; the FTSE NAREIT Index increased $10.0 \%$. Private real estate fared worse; the NCREIF Property Index was down 3.3\%.

## 2nd Quarter 2010

The economy posted another quarter of growth despite a stubborn unemployment rate, which calls into question the resiliency of the economy, particularly after two years of stimulative efforts. GDP expanded $3.0 \%$ for the quarter. The unemployment rate fell to $9.5 \%$ in the first quarter from 9.7\%. The CPI Index increased 1.1\% year-over-year. The Fed Funds rate was left unchanged with a range of $0.00 \%$ to $0.25 \%$.

Domestic equity suffered a pull-back in the second quarter. The S\&P 500 Index fell $11.4 \%$ for the quarter. Large cap stocks underperformed both mid and small caps. The S\&P 400 MidCap Index declined $9.6 \%$ and the S\&P 600 SmallCap Index decreased $8.7 \%$. Value and growth experienced mixed relative performance across the cap spectrums. International equity markets also had a weak quarter. The MSCI EAFE Index fell $14.0 \%$ for the quarter. The MSCI ACWI ex U.S. Index declined by $12.5 \%$ with Europe being the weakest region of the developed markets. Emerging markets outpaced their developed counterparts. The MSCI EM Index decreased $8.4 \%$ for the quarter.

The Barclays Aggregate Index rose 3.5\% during the second quarter and outperformed equity markets. Longer-term issues outperformed shorter-term issues.

## 2010 Comprehensive Annual Financial Report

## I nvestment Report

Higher-quality issues outperformed lower-quality issues in the investment credit space. Mortgages gained 2.9\% while Treasuries rose $4.7 \%$ during the quarter.

REITs struggled in the second quarter; the FTSE NAREIT Index fell 4.1\%. Private real estate fared better; the NCREIF Property Index increased by $0.8 \%$.

## I nvestment Goals

1. Achieve a total fund rate of return equal to or greater than the actuarial assumed interest rate.
2. Achieve a total fund rate of return equal to or greater than the asset allocation benchmark.
3. Achieve a total fund rate of return equal to or greater than the amount projected in the most recent asset allocation study.
4. Achieve asset class net rates of return equal to or greater than their respective broad asset class benchmarks.
5. Achieve portfolio-level net rates of return equal to or greater than their respective portfolio benchmarks.
6. Ensure sufficient monies are available to meet cash flow requirements.

## Asset Allocation Targets

As of June 30, 2010, the ASRS asset allocation policy targets and ranges are as follows:

| U.S. Equity | $40 \%$ | $(30-50 \%)$ |
| :--- | ---: | :--- |
| International Equity | $18 \%$ | $(8-28 \%)$ |
| U.S. Fixed Income | $26 \%$ | $(16-36 \%)$ |
| Real Estate | $6 \%$ | $(4-8 \%)$ |
| Inflation Linked Assets | $3 \%$ | $(0-5 \%)$ |
| (Commodities) |  |  |
| Private Equity | $7 \%$ | $(5-9 \%)$ |
| Risk Parity | $0 \%$ | $(0-5 \%)$ |
| Absolute Return | $0 \%$ | $(0-5 \%)$ |
| Opportunistic | $0 \%$ | $(0-5 \%)$ |
| $\quad$ TOTAL | $\mathbf{1 0 0 \%}$ |  |

## I nvestment 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 104 externally managed and 6 internally managed portfolios, which are diversified in U.S. equities, U.S. fixed income, international equities, real estate, private equity and opportunistic 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 and direction responsibilities reside with the ASRS Board. Details of investments are located at the end of this report.

## Investment Results Summary

For the fiscal year ended June 30, 2010, the ASRS posted a $14.9 \%$ gain, which outperformed the ASRS actuarial assumed investment rate of return of $8 \%$ by $6.9 \%$.

## I nvestment 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. Investment amounts are reflected at Fair Market Value. Private Real Estate, Private Equity and Opportunistic Investments are valued on a quarter lag basis adjusted for cash flows.

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* (Retirement \& HBS)

| Time Weighted Returns | $\mathbf{1}$ Year | $\mathbf{3}$ Year | $\mathbf{5}$ Year | $\mathbf{1 0}$ Year | Inception |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Total Fund | $14.9 \%$ | $-4.7 \%$ | $2.3 \%$ | $2.3 \%$ | $9.6 \%$ |
| Domestic Equity | $17.8 \%$ | $-8.3 \%$ | $0.3 \%$ | $-0.1 \%$ | $10.4 \%$ |
| S\&P Custom Index | $17.0 \%$ | $-9.0 \%$ | $-0.1 \%$ | $-1.2 \%$ | $10.5 \%$ |
| Domestic Fixed Income | $11.1 \%$ | $7.9 \%$ | $5.8 \%$ | $6.6 \%$ | $9.0 \%$ |
| BC Aggregate Index | $9.5 \%$ | $7.6 \%$ | $5.5 \%$ | $6.5 \%$ | $\mathrm{n} / \mathrm{a}$ |
| International Equity | $10.5 \%$ | $-11.0 \%$ | $2.3 \%$ | $1.4 \%$ | $5.8 \%$ |
| MSCI ACWI EX-US | $10.9 \%$ | $-10.3 \%$ | $3.6 \%$ | $1.7 \%$ | $5.3 \%$ |
| Real Estate | $0.5 \%$ | $-17.3 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $-6.0 \%$ |
| NCREIF Property Index + 100 BPS | $-8.7 \%$ | $-3.4 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $4.3 \%$ |
| Private Equity | $17.7 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $-9.5 \%$ |
| Russell $3000+300$ BPS | $56.7 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $-4.7 \%$ |
| Opportunistic | $39.0 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $6.0 \%$ |

[^4]
## 2010 Comprehensive Annual Financial Report

## I nvestment Results

## Historical Rates of Return*

(Retirement \& HBS)

| Fiscal Year | Return | Fiscal Year | Return | Fiscal Year | Return |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $2009-10$ | $14.9 \%$ | $2001-02$ | $-8.2 \%$ | $1993-94$ | $1.9 \%$ |
| $2008-09$ | $-18.1 \%$ | $2000-01$ | $-6.7 \%$ | $1992-93$ | $16.7 \%$ |
| $2007-08$ | $-7.6 \%$ | $1999-00$ | $10.0 \%$ | $1991-92$ | $14.6 \%$ |
| $2006-07$ | $17.8 \%$ | $1998-99$ | $16.8 \%$ | $1990-91$ | $8.0 \%$ |
| $2005-06$ | $9.8 \%$ | $1997-98$ | $21.3 \%$ | $1989-90$ | $9.5 \%$ |
| $2004-05$ | $8.5 \%$ | $1996-97$ | $20.6 \%$ | $1988-89$ | $14.3 \%$ |
| $2003-04$ | $17.5 \%$ | $1995-96$ | $16.7 \%$ | $1987-88$ | $3.1 \%$ |
| $2002-03$ | $2.4 \%$ | $1994-95$ | $17.8 \%$ | $1986-87$ | $11.8 \%$ |

## Monthly Returns

(Retirement \& HBS)

|  | Total Fund | US Equity | Fixed Inc | Intl Equity |
| :---: | :---: | :---: | :---: | :---: |
| $7 / 31 / 2009$ | $6.2 \%$ | $8.1 \%$ | $2.5 \%$ | $9.0 \%$ |
| $8 / 31 / 2009$ | $3.0 \%$ | $3.6 \%$ | $1.2 \%$ | $4.5 \%$ |
| $9 / 30 / 2009$ | $3.5 \%$ | $4.3 \%$ | $1.1 \%$ | $4.4 \%$ |
| $10 / 31 / 2009$ | $-1.6 \%$ | $-2.9 \%$ | $0.7 \%$ | $-1.8 \%$ |
| $11 / 30 / 2009$ | $3.7 \%$ | $5.2 \%$ | $1.2 \%$ | $2.8 \%$ |
| $12 / 31 / 2009$ | $2.1 \%$ | $3.6 \%$ | $-0.9 \%$ | $1.7 \%$ |
| $1 / 31 / 2010$ | $-2.1 \%$ | $-3.5 \%$ | $1.3 \%$ | $-4.1 \%$ |
| $2 / 28 / 2010$ | $1.9 \%$ | $3.7 \%$ | $0.3 \%$ | $-0.8 \%$ |
| $3 / 31 / 2010$ | $4.6 \%$ | $6.4 \%$ | $0.2 \%$ | $6.7 \%$ |
| $4 / 30 / 2010$ | $1.5 \%$ | $2.7 \%$ | $1.2 \%$ | $-1.0 \%$ |
| $5 / 31 / 2010$ | $-5.8 \%$ | $-7.7 \%$ | $0.3 \%$ | $-9.9 \%$ |
| $6 / 30 / 2010$ | $-2.3 \%$ | $-5.8 \%$ | $1.6 \%$ | $-0.6 \%$ |

[^5]
## I nvestment Results

## Ten Year Review of I nvestment Income

(Dollars in Thousands)

| Fiscal Year | Income | $\boldsymbol{+}$ | Net Apprec/ (Depr) | - | Expense | $=$ Net Income |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $2000-2001$ | $\$$ | 527,329 | $\$$ | $(2,038,932)$ | $\$$ | 27,525 | $\$$ |
| $2001-2002$ | 485,535 |  | $(2,228,394)$ |  | 25,218 | $(1,768,077)$ |  |
| $2002-2003$ | 442,870 |  | $(51,437)$ | 22,801 | 368,632 |  |  |
| $2003-2004$ | 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 | $3,015,718$ |  |  |

Net Income from Investments
(Dollars in Millions)


## Asset Allocation

## Schedule of I nvestments

## (Dollars in Thousands)

|  | Investments at Fair Value |  | Receivables |  | Payables |  |  |  | Total |  | \% of Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Temporary Investments | \$ | 1,320,643 | \$ | 963,088 | * | \$ | 1,215,038 | ** | \$ | 1,068,693 | 4.58\% |
| Temporary Investments from Securities Lending |  | 2,360,532 |  | - |  |  | 2,360,532 |  |  |  | 0.00\% |
| Common and preferred stocks |  | 15,246,974 |  | - |  |  | - |  |  | 15,246,974 | 65.29\% |
| Fixed Income Securities: |  |  |  |  |  |  |  |  |  |  |  |
| Corporate Debt Securities |  | 2,146,826 |  | - |  |  | - |  |  | 2,146,826 | 9.19\% |
| Government Obligations |  | 3,378,261 |  | - |  |  | - |  |  | 3,378,261 | 14.47\% |
| Derivatives |  | 213 |  | - |  |  |  |  |  | 213 | 0.00\% |
| Real Estate |  | 720,310 |  | 1,338 |  |  | - |  |  | 721,648 | 3.09\% |
| Private Equity |  | 480,748 |  | - |  |  | 301 |  |  | 480,447 | 2.05\% |
| Opportunistic |  | 310,632 |  | - |  |  | - |  |  | 310,632 | 1.33\% |
| Total Investments | \$ | 25,965,139 | \$ | 964,426 |  | \$ | 3,575,871 |  | \$ | 23,353,694 | 100.0\% |


| *RECEIVABLES INCLUDE: |  | **PAYABLES INCLUDE: |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Accrued Interest \& Dividends | $\$$ | 65,081 | Payable for Securities Purchased | $\$$ |
| Securities Sold | 186,494 | Forward Contract Payable | 500,545 |  |
| Forward Contracts Receivables | 711,480 | Other Payables | 695,488 |  |
| Other Receivables | 33 |  | 19,005 |  |
| Total | $\mathbf{\$ 1}$ | $\mathbf{9 6 3 , 0 8 8}$ | Total | $\mathbf{\$ 1 , 2 1 5 , 0 3 8}$ |

## Equity Portfolio Profile

## Equity Sub-Sector Allocation

(Dollars in Thousands)

|  | Percent of Fund | Fair Value |
| :--- | :---: | ---: |
| US Large Cap Equity | $52.90 \%$ | $\$ 8,065,556$ |
| US Mid Cap Equity | 11.70 | $1,784,049$ |
| US Small Cap Equity | 12.54 | $1,912,099$ |
| Total US Equity | $\mathbf{7 7 . 1 4}$ | $\mathbf{1 1 , 7 6 1 , 7 0 4}$ |
|  |  |  |
| International Equity | 22.86 | $3,485,270$ |
| TOTAL EQUI TY | $\mathbf{1 0 0 . 0 0 \%}$ | $\mathbf{\$ 1 5 , 2 4 6 , 9 7 4}$ |

Ten Largest Domestic Equity Holdings

|  | \% of Domestic <br> Equity Portfolio |
| :--- | :---: |
| Exxon Mobil, Corp | $0.86 \%$ |
| Apple, Inc | 0.66 |
| Microsoft, Corp | 0.51 |
| Procter \& Gamble, Co | 0.50 |
| Johnson \& Johnson | 0.47 |
| Intl Business Machines, Corp | 0.46 |
| General Electric, Co | 0.45 |
| JP Morgan Chase \& Co | 0.42 |
| Bank Of America Corp | 0.42 |
| AT\&T, Inc | 0.41 |
| Total | $\mathbf{5 . 1 6 \%}$ |

[^6]
## 2010 Comprehensive Annual Financial Report

## Equity Portfolio Profile

## Distribution by Market Sector

|  | ASRS Domestic <br> Equity | S\&P 500 <br> Index |
| :--- | :---: | :---: |
| Consumer Discretionary | $12.30 \%$ | $11.40 \%$ |
| Consumer Staples | 8.00 | 10.00 |
| Energy | 8.80 | 10.90 |
| Financials | 17.00 | 16.80 |
| Healthcare | 12.80 | 12.00 |
| Industrials | 13.00 | 10.50 |
| Information Technology | 17.80 | 18.20 |
| Materials | 4.20 | 3.50 |
| Telecommunication Services | 2.40 | 3.00 |
| Utilities | 3.70 | 3.70 |
| Total |  |  |

Ten Largest I nternational Equity Holdings

|  | \% of International <br> Equity Portfolio |
| :--- | :---: |
| Nestle SA | $1.04 \%$ |
| Roche Holdings | 0.90 |
| LVMH Moet Hennessy Louis VUI | 0.81 |
| Linde AG | 0.78 |
| Deuthsche Telecom AG | 0.73 |
| Reckitt Benckiser Group PLC | 0.73 |
| Schneider Electric SA | 0.67 |
| Canadian Natl Railway Co | 0.67 |
| Heineken NV | 0.65 |
| France Telecom SA | 0.56 |
| $\quad$ Total | $\mathbf{7 . 5 4 \%}$ |

## Summary of Broker Commissions

(Dollars in Thousands)

| Summary of Broker Commissions | Commission |  |
| :---: | :--- | ---: |
| Domestic Equity | $\$$ | 4,653 |
| International Equity | $\$$ | 1,999 |

[^7]
## Fixed Income Portfolio Profile

## Distribution by Sector

|  | Percent |
| :--- | :---: |
| Asset Backed Securities | $5.76 \%$ |
| Commercial Mortgage Backed | 5.65 |
| Corporate Bonds | 25.78 |
| Non-Government Backed CMO's | 1.66 |
| Government Related | 16.00 |
| Government Agencies CMO | 0.16 |
| Government Bonds (Treasury) | 19.70 |
| Government Mortgage Backed | 25.29 |
| Total | $\mathbf{1 0 0 . 0 0 \%}$ |

## Distribution by Coupon

|  | Percent |
| :--- | ---: |
| $0.00 \%-6.5 \%$ | $86.20 \%$ |
| $6.51 \%-7.50 \%$ | $5.21 \%$ |
| $7.51 \%-9.0 \%$ | $5.29 \%$ |
| $>9.00 \%$ | $3.30 \%$ |
| Total | $\mathbf{1 0 0 . 0 0 \%}$ |

## Distribution by Maturity

|  | Percent |
| :--- | :---: |
| 0 - 2 years | $5.93 \%$ |
| 2 to 3 years | 7.66 |
| 3 to 4 years | 5.63 |
| 4 to 5 years | 8.20 |
| 5 to 6 years | 2.75 |
| 6 to 8 years | 12.21 |
| > 8 years | 57.62 |
| TOTAL | $\mathbf{1 0 0 . 0 0 \%}$ |

## Ten Largest Domestic Fixed I ncome Holdings

(Dollars in Thousands)

|  | Coupon | Maturity | Par Value | Fair Value | Percent |
| :--- | ---: | ---: | ---: | ---: | :---: |
| FNMA TBA JUL 30 Single Family | $5.00 \%$ | $12 / 1 / 2099$ | $\$$ | 80,250 | $\$$ |
| US Treasury Note | $4.63 \%$ | $2 / 15 / 2040$ |  | 65,000 |  |
| US Treasury Note | $3.63 \%$ | $5 / 15 / 2013$ |  | 55,000 | $1.53 \%$ |
| US Treasury Note | $3.50 \%$ | $2 / 15 / 2018$ | 45,000 | 59,248 | 1.32 |
| US Treasury Note | $3.63 \%$ | $8 / 15 / 2019$ | 43,000 | 45,464 | 0.87 |
| US Treasury Bond | $11.25 \%$ | $2 / 15 / 2015$ | 29,000 | 41,406 | 0.82 |
| FNMA Pool AC 3032 | $5.00 \%$ | $10 / 1 / 2039$ | 38,736 | 41,044 | 0.74 |
| US Treasury Note | $4.63 \%$ | $12 / 31 / 2011$ | 35,000 | 37,185 | 0.67 |
| US Treasury Note | $3.13 \%$ | $5 / 15 / 2019$ | 35,900 | 36,647 | 0.66 |
| US Treasury Bond | $5.25 \%$ | $11 / 15 / 2028$ | 30,000 | 36,109 | 0.65 |
| $\quad$ Total |  |  | $\mathbf{\$ 4 5 6 , 8 8 6}$ | $\mathbf{\$ 5 0 2 , 5 4 7}$ | $\mathbf{9 . 0 8 \%}$ |

[^8]
## 2010 Comprehensive Annual Financial Report

## Real Estate Portfolio Profile

## Ten Largest Real Estate Managers

(Dollars in Thousands)

|  | Fair Value | \% of Real Estate <br> Portfolio |  |
| :--- | :---: | :---: | :---: |
| Five Arrows Realty Securities IV, LP | $\$$ | 69,408 | $9.64 \%$ |
| AEW Core Property Trust | 67,959 | 9.43 |  |
| CIM Urban REIT, LLC | 66,821 | 9.28 |  |
| Lone Star Fund VI (US), LP | 59,193 | 8.22 |  |
| PLA Retail Fund I, LP | 58,651 | 8.14 |  |
| PLA Residential III, LP | 39,040 | 5.42 |  |
| Carlyle Realty Partners V, LP | 38,942 | 5.41 |  |
| PRISA II |  | 36,039 | 5.00 |
| Westbrook Real Estate Fund VII | 25,879 | 3.59 |  |
| Dune Real Estate Securities | 23,923 | 3.32 |  |
| Total | $\mathbf{4 8 5 , 8 5 5}$ | $\mathbf{6 7 . 4 5 \%}$ |  |

## Private Equity Portfolio Profile

## Ten Largest Private Equity Managers

(Dollars in Thousands)

|  | Fair Value | \% of Private <br> Equity Portfolio |  |
| :--- | :---: | :---: | :---: |
| Wayzata Opportunities Fund II, LP | $\$$ | 36,845 | $7.66 \%$ |
| Oakhill Capital Partners III, LP | 36,697 | 7.63 |  |
| TCW/Crecent Mezzanine Partners V, LP | 28,445 | 5.92 |  |
| Yucaipa American Alliance Fund II, LP | 28,308 | 5.89 |  |
| First Reserve Fund XII, LP | 25,257 | 5.25 |  |
| Thomas H Lee Equity Fund VI, LP |  | 23,274 | 4.83 |
| Partners Group Secondary 2008, LP |  | 22,831 | 4.75 |
| Warburg Pincus Private Equity X, LP |  | 22,562 | 4.69 |
| Paul Capital Partners IX, LP |  | 21,584 | 4.49 |
| Apollo Fund VII |  | 21,020 | 4.37 |
| Total | $\mathbf{\$}$ | $\mathbf{2 6 6 , 8 2 3}$ | $\mathbf{5 5 . 4 9 \%}$ |

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

## Opportunistic Portfolio Profile

## Largest Opportunistic Managers

(Dollars in Thousands)

|  | Fair Value | Opportunistic <br> Portfolio |  |
| :--- | :---: | :---: | :---: |
| TCW Capital Trust | $\$$ | 108,715 | $35.00 \%$ |
| Blackstone Capital Solutions Fund, LP |  | 75,210 | 24.21 |
| Blackrock Mortgage Investors, LP |  | 75,093 | 24.17 |
| Blackrock Credit Investors II, LP |  | 34,523 | 11.11 |
| Oaktree Opportunities Fund VIIB, LP |  | 13,750 | 4.43 |
| TCW Credit Opportunities Fund, LP |  | 3,341 | 1.08 |
| Total | $\mathbf{3 1 0 , 6 3 2}$ | $\mathbf{1 0 0 . 0 0 \%}$ |  |

## Schedule of Broker Commissions

## Domestic Equity Trades

(Dollars in Thousands)

| Broker Name | Dollar Amount of Trades |  | Number of Shares10,277 | Average Commission Per Share |  | Dollar Amount of Commission |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ancora Securities Inc, Jersey City | \$ | 193,697 |  | \$ | 0.01 | \$ | 64 |
| Aqua Securities LP, New York |  | 136,043 | 4,992 |  | 0.01 |  | 66 |
| Avondale Partners LLC, Nashville |  | 111,711 | 7,264 |  | 0.01 |  | 86 |
| B Riley And Co Inc, New York |  | 110,111 | 586 |  | 0.26 |  | 152 |
| Baird, Robert W \& Co Inc, Milwaukee |  | 121,820 | 4,571 |  | 0.02 |  | 96 |
| Barclays Capital Inc, New York |  | 408,087 | 15,354 |  | 0.01 |  | 171 |
| Barclays Capital Inc./LE, New Jersey |  | 306,266 | 9,256 |  | 0.01 |  | 128 |
| Barclays Capital LE, Jersey City |  | 77,491 | 2,239 |  | 0.01 |  | 30 |
| Baypoint Trading LLC, New York |  | 117,003 | 4,435 |  | 0.02 |  | 100 |
| Benchmark Company LLC, Brooklyn |  | 60,817 | 2,696 |  | 0.02 |  | 41 |
| Bernstein Sanford C \& Co, New York |  | 42,731 | 3,926 |  | 0.01 |  | 51 |
| Bloomberg Tradebook LLC, New York |  | 35,704 | 1,479 |  | 0.02 |  | 30 |
| BMO Capital Markets Corp, New York |  | 33,108 | 1,316 |  | 0.02 |  | 21 |
| BNP Paribas Brokerage Securities Inc |  | 10,873 | 260 |  | 0.01 |  | 3 |
| BNP Securities (U.S.A.), Inc |  | 11,561 | 327 |  | 0.01 |  | 3 |
| BNY Brokerage, New York |  | 41,449 | 1,290 |  | 0.03 |  | 38 |
| BNY Convergex / LJR, Houston |  | 97,288 | 2,943 |  | 0.02 |  | 64 |
| BNY Convergex, New York |  | 30,992 | 1,300 |  | 0.03 |  | 37 |
| BNY ESI \& Co Inc, Jersey City |  | 29,917 | 1,000 |  | 0.04 |  | 44 |
| Boenning \& Scattergood, W Conshohocken |  | 14,140 | 631 |  | 0.05 |  | 30 |
| Brean Murray Foster Inc, New York |  | 12,615 | 531 |  | 0.04 |  | 21 |
| Canaccord Adams Inc, Jersey City |  | 12,091 | 424 |  | 0.04 |  | 17 |
| Cantor Fitzgerald \& Co Inc, New York |  | 32,544 | 1,275 |  | 0.03 |  | 41 |
| Cantor Fitzgerald \& Co, New York |  | 23,698 | 992 |  | 0.04 |  | 36 |
| Cap Instl Svcs Inc-Equities, Dallas |  | 124,754 | 8,458 |  | 0.01 |  | 122 |
| Citigroup Global Markets Inc, New York |  | 350,916 | 44,519 |  | 0.00 |  | 129 |
| Cowen And Company LLC, New York |  | 24,055 | 956 |  | 0.04 |  | 41 |
| Credit Suisse, New York |  | 760,099 | 28,051 |  | 0.01 |  | 381 |
| Deutsche Bank Secs Inc, New York |  | 115,524 | 3,511 |  | 0.03 |  | 97 |
| Fidelity Cap Mkts (Div of NFSC), Boston |  | 65,536 | 2,299 |  | 0.04 |  | 87 |
| Fox River Execution Tech, LLC, Jersey City |  | 32,717 | 930 |  | 0.01 |  | 10 |
| Goldman Sachs \& Co, New York |  | 143,918 | 4,133 |  | 0.03 |  | 106 |

## Schedule of Broker Commissions

## Domestic Equity Trades - continued

(Dollars in Thousands)

| Broker Name | Dollar Amount of Trades |  | Number of Shares$1,390$ | Average Commission Per Share |  | Dollar Amount of Commission |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Guzman \& Co, New York | \$ | 45,878 |  | \$ | 0.02 | \$ | 23 |
| Instinet Corp, New York |  | 296,248 | 14,363 |  | 0.01 |  | 207 |
| Investment Technology Group, New York |  | 954,083 | 42,896 |  | 0.01 |  | 309 |
| ITG Inc, New York |  | 259,551 | 8,940 |  | 0.01 |  | 91 |
| J.P. Morgan Clearing Corp, New York |  | 24,364 | 875 |  | 0.03 |  | 23 |
| J.P. Morgan Securities Inc. |  | 24,787 | 917 |  | 0.04 |  | 37 |
| Jefferies \& Co Inc, New York |  | 214,434 | 5,629 |  | 0.02 |  | 133 |
| Keefe Bruyette And Woods, Jersey City |  | 16,205 | 726 |  | 0.05 |  | 33 |
| Keybanc Capital Markets Inc, New York |  | 21,538 | 701 |  | 0.04 |  | 29 |
| Knight Sec Broadcort, Jersey City |  | 25,204 | 858 |  | 0.03 |  | 22 |
| Liquidnet Inc, Brooklyn |  | 135,884 | 4,837 |  | 0.02 |  | 93 |
| Merrill Lynch Pierce Fenner Smith Inc, New York |  | 383,394 | 11,968 |  | 0.01 |  | 127 |
| Morgan Stanley \& Co Inc, New York |  | 54,599 | 2,666 |  | 0.02 |  | 63 |
| Oppenheimer \& Co Inc, New York |  | 22,594 | 782 |  | 0.05 |  | 36 |
| Piper Jaffray \& Co, Minneapolis |  | 19,264 | 671 |  | 0.04 |  | 28 |
| Pulse Trading LLC, Boston |  | 14,949 | 575 |  | 0.03 |  | 15 |
| Raymond James \& Assoc Inc, St Petersburg |  | 18,994 | 733 |  | 0.04 |  | 30 |
| RBC Capital Markets Corp, Minneapolis |  | 21,494 | 811 |  | 0.04 |  | 30 |
| Rosenblatt Securities LLC, Jersey City |  | 119,260 | 3,344 |  | 0.02 |  | 62 |
| Sanford Cbernstein Co LLC |  | 18,298 | 727 |  | 0.02 |  | 17 |
| Stifel Nicolaus |  | 30,667 | 1,042 |  | 0.04 |  | 46 |
| Thomas Weisel Partners, San Francisco |  | 11,011 | 366 |  | 0.04 |  | 14 |
| UBS Securities LLC, Stamford |  | 158,736 | 6,010 |  | 0.02 |  | 99 |
| UNX Com, New York |  | 12,613 | 597 |  | 0.02 |  | 12 |
| Various Other Brokers |  | 380,802 | 19,287 |  | 0.03 |  | 627 |
| Weeden \& Co, New York |  | 110,144 | 1 |  | 7.00 |  | 7 |
| Wells Fargo Securities LLC, Charlotte |  | 28,487 | 1,040 |  | 0.05 |  | 48 |
| William Blair \& Co, Chicago |  | 28,512 | 939 |  | 0.04 |  | 38 |
| Williams Capital Group LP, Jersey City |  | 13,582 | 464 |  | 0.02 |  | 11 |
| Total | \$ | 7,154,852 | 306,376 | \$ | 0.02 | \$ | 4,653 |

[^9] AZ 85012

## Schedule of Broker Commissions

Foreign Equity Trades
(Dollars in Thousands)

| Broker Name | $\qquad$ |  | Number of Shares$2,802$ | Average Commission Per Share |  | Dollar Amount of Commission |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Barclays Capital Inc./LE, NJ | \$ | 23,765 |  | \$ | 0.010 | \$ | 27 |
| Barclays Capital, London |  | 11,102 | 391 |  | 0.056 |  | 22 |
| Canadian Imperial Bank Of Commerce |  | 20,286 | 558 |  | 0.039 |  | 22 |
| Cantor Fitzgerald Europe, London |  | 33,953 | 13,612 |  | 0.001 |  | 14 |
| Cazenove + Co |  | 14,004 | 2,507 |  | 0.003 |  | 7 |
| Citigroup Gbl Mkts/Salomon, NY |  | 19,945 | 1,385 |  | 0.032 |  | 44 |
| Citigroup Global Markets Ltd, London |  | 35,110 | 3,075 |  | 0.012 |  | 37 |
| Citigroup Global Markets U.K., London |  | 50,226 | 2,191 |  | 0.014 |  | 30 |
| CLSA Singapore Pte Ltd. |  | 19,573 | 317 |  | 0.107 |  | 34 |
| Credit Suisse (Europe), London |  | 70,082 | 5,731 |  | 0.012 |  | 69 |
| Credit Suisse, NY |  | 212,470 | 40,476 |  | 0.003 |  | 126 |
| Daiwa Secs Amer Inc, NY |  | 27,296 | 3,065 |  | 0.004 |  | 12 |
| Deutsche Bk Intl Eq, London |  | 43,029 | 4,836 |  | 0.007 |  | 33 |
| Deutsche Bk Secs Inc, NY |  | 68,838 | 5,885 |  | 0.015 |  | 86 |
| Exane, Paris |  | 31,734 | 2,901 |  | 0.013 |  | 38 |
| Goldman Sachs \& Co, NY |  | 493,977 | 128,458 |  | 0.002 |  | 275 |
| Goldman Sachs Intl, London |  | 33,466 | 1,842 |  | 0.020 |  | 37 |
| Instinet Europe Limited, London |  | 47,546 | 11,482 |  | 0.002 |  | 22 |
| Investment Technology Group Ltd |  | 19,781 | 3,857 |  | 0.002 |  | 7 |
| J P Morgan Secs Ltd, London |  | 45,477 | 297 |  | 0.189 |  | 56 |
| J.P. Morgan Clearing Corp, New York |  | 34,813 | 2,510 |  | 0.010 |  | 24 |
| Macquarie Securities Limited, Hong Kong |  | 11,769 | 562 |  | 0.077 |  | 43 |
| Merrill Lynch Intl London Equities |  | 58,600 | 5,289 |  | 0.010 |  | 55 |
| Merrill Lynch Pierce Fenner Smith Inc, NY |  | 78,805 | 19,827 |  | 0.004 |  | 74 |
| Merrill Lynch Pierce Fenner, Wilmington |  | 12,525 | 4,680 |  | 0.001 |  | 7 |
| Mitsubishi UFJ Sec (USA), NY |  | 13,173 | 888 |  | 0.015 |  | 13 |
| Morgan Stanley \& Co Inc, NY |  | 135,432 | 10,621 |  | 0.017 |  | 182 |
| Morgan Stanley \& Co, London |  | 35,250 | 10,489 |  | 0.001 |  | 7 |
| Nomura International PLC |  | 13,759 | 1,919 |  | 0.003 |  | 5 |
| Nomura Secs Intl Inc, NY |  | 14,745 | 4,107 |  | 0.005 |  | 21 |
| Nomura Secs Intl, London |  | 59,929 | 7,284 |  | 0.011 |  | 81 |
| RBS Securities, Inc |  | 32,492 | 962 |  | 0.065 |  | 63 |
| SG Securities, Hong Kong |  | 52,007 | 6,204 |  | 0.002 |  | 10 |
| Skandinaviska Enskilda Banken, London |  | 17,942 | 1,718 |  | 0.004 |  | 7 |
| Societe Generale London Branch |  | 129,552 | 12,209 |  | 0.003 |  | 38 |
| The Royalbank Of Scotland N.V.Uk Equiti |  | 14,665 | 483 |  | 0.046 |  | 22 |
| UBS AG |  | 77,812 | 2,928 |  | 0.027 |  | 80 |
| UBS Securities Asia Ltd |  | 19,061 | 3,804 |  | 0.004 |  | 15 |
| UBS Securities LLC, Stamford |  | 15,524 | 484 |  | 0.035 |  | 17 |
| Various Other Brokers |  | 283,649 | 98,837 |  | 0.002 |  | 237 |
| Total |  | 433,164 | 431,473 | \$ | 0.005 | \$ | 1,999 |

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

## Schedule of I nvestment Fees

Equity and Fixed Income
Excluding Securities Lending
(Dollars in Thousands)

|  | Net Assets Managed at Fair Value at J une 30, 2010 |  | Management \& Other Fees |  |
| :---: | :---: | :---: | :---: | :---: |
| ASRS Internal | \$ | 9,405,203 | \$ | 596 |
| AXA Rosenburg |  | 908 |  | 1,289 |
| Barclays Global Investors |  | 2,687,280 |  | 1,431 |
| Blackrock |  | 405,234 |  | 1,844 |
| Brandes Investment Partners International Equity |  | 660,344 |  | 5,248 |
| Bridgewater Associates Global TAA |  | 2,054,321 |  | 8,465 |
| CC Media Holdings, Inc. Class A |  | 1,248 |  | - |
| Champlain Investment Partners |  | 114,992 |  | 952 |
| Columbia Small Cap |  |  |  | 386 |
| Copper Rock Capital Partners |  | 69,816 |  | 606 |
| Cramer Rothenthal McGynn Mid Cap Value |  | 114,379 |  | 607 |
| Credit Suisse Alternative Capital, Inc. |  | 216,490 |  | 998 |
| Dimensional Fund Advisors Equity Fund |  | 451,661 |  | 574 |
| Dimensional Fund Advisors International Small Cap |  | 130,439 |  | 1,286 |
| European Investors Global Real Estate Securities |  | 49,342 |  | 326 |
| Forum Securities LTD |  | 54,700 |  | 145 |
| Guggenheim Partners Asset Management |  | 217,865 |  | 1,318 |
| Hansberger Global Investors, LLC |  | 581,558 |  | 2,721 |
| Hyperion Asset Management |  | 98,438 |  | 1,220 |
| Intech Large Cap |  | 546,960 |  | 2,089 |
| Ironbridge Capital Management |  | 136,180 |  | 928 |
| Jacobs Levy Equity Management |  | 150,328 |  | 719 |
| Lasalle Investment Mananagement |  | - |  | 140 |
| LSV Asset Management |  | 497,836 |  | 1,416 |
| MFS Insitutional Advisors International Large Cap |  | 763,370 |  | 3,094 |
| Pacific Investment Management Company |  | 681,503 |  | 727 |
| Pyramis Global |  | - |  | 737 |
| QS Investors, LLC |  | 451,624 |  | 2,784 |
| Riversource Investments, LLC |  | 156,055 |  | - |
| Segall Bryant \& Hamill Investments |  | 210,347 |  | 172 |
| Shenkman Capital Management |  | 158,508 |  | 432 |
| State Street Global Advisors Mid Cap Fund |  | 262,972 |  | 91 |
| Timessquare Capital Management |  | 422,126 |  | 3,282 |
| Wellington Management Co |  | 340,890 |  | 1,803 |
| Total | \$ | 22,092,917 | \$ | 48,426 |

## Schedule of I nvestment Fees

Real Estate
(Dollars in Thousands)

|  | Net Assets Managed at Fair Value at J une 30, 2010 |  | Management \& Other Fees |  |
| :---: | :---: | :---: | :---: | :---: |
| AEW Value Investors Fund II, LP | \$ | 7,039 | \$ | 255 |
| AEW Core Property Trust |  | 67,959 |  | 105 |
| AIG Asian Fund |  | 6,499 |  | 570 |
| ASRS Internal |  | 23,659 |  | 23,449 |
| Blackstone Real Estate Parnters VI |  | 14,066 |  | 668 |
| CBRE US Opportunities V |  | 2,151 |  | 163 |
| CBRE Strategic Partners Value V |  | 22,113 |  | 153 |
| CIM Fund III LP |  | 7,375 |  | 725 |
| CIM Urban REIT, LLC |  | 66,821 |  | 655 |
| Colony Investors VIII, LP |  | 18,283 |  | (169) |
| Dune Capital Management |  | 23,923 |  | 783 |
| Dune Real Estate Fund II |  | 5,479 |  | 839 |
| Five Mile Capital Partners II, LP |  | 23,521 |  | 1,126 |
| Heitman Value Partners II, LP |  | 10,598 |  | 97 |
| Hines US Core Office Fund, LP |  | 9,347 |  | 80 |
| Lone Star Real Estate Fund (US), LP |  | 21,277 |  | 202 |
| Lone Star Fund VI (US), LP |  | 59,193 |  | 511 |
| PLA Residential III, LP |  | 39,040 |  | 497 |
| PLA Retail Fund I, LP |  | 58,651 |  | 1,025 |
| PRISA II |  | 36,039 |  | 369 |
| Five Arrows Realty Securities IV, LP |  | 69,408 |  | 293 |
| Five Arrows Realty Securities V, LP |  | 10,528 |  | 560 |
| RREEF Global Opportunities Fund II, LP |  | 22,753 |  | 1,016 |
| Carlyle Realty Partners V, LP |  | 38,942 |  | 570 |
| Tishman Speyer Real Estate Venture VI, LP |  | 7,498 |  | 402 |
| Tishman Speyer Real Estate Venture VII, LP |  | 4,677 |  | 1,028 |
| TRECAP Commercial Realty Partners III, LP |  | 12,112 |  | 625 |
| Westbrook Real Estate Fund VII |  | 25,879 |  | 615 |
| Westbrook Real Estate Fund VIII |  | 5,480 |  | 279 |
| Total | \$ | 720,310 | \$ | 37,491 |

## Schedule of I nvestment Fees

## Private Equity

(Dollars in Thousands)

|  | Net Assets Managed at Fair Value at J une 30, 2010 |  | Management \& Other Fees |  |
| :---: | :---: | :---: | :---: | :---: |
| Accel-KKR Capital Partners III, LP | \$ | 12,645 | \$ | 711 |
| Atlas Venture Fund VIII, LP |  | 3,138 |  | 303 |
| Apollo Investment Fund VII, LP |  | 21,020 |  | 587 |
| Bridgepoint Europe IV 'D' LP |  | 6,531 |  | 669 |
| CMEA Ventures VII, LP |  | 4,485 |  | 164 |
| Crown European Buyout Opportunities II, PLC |  | 6,693 |  | 508 |
| CVC European Equity Partners V, LP |  | 13,215 |  | 646 |
| Energy Capital Partners II-A, LP |  | 18,655 |  | 545 |
| First Reserve Fund XII, LP |  | 25,257 |  | 783 |
| IDG Ventures SF, LP |  | 2,656 |  | 213 |
| JLL Partners Fund VI, LP |  | 12,035 |  | 591 |
| Levine Leichtman Capital Partners IV, LP |  | 11,212 |  | 1,824 |
| Littlejohn Fund IV-A, LP |  | 146 |  | - |
| Linconshire Equity Fund IV-A, LP |  | 1,193 |  | 334 |
| LLR Equity Partners III, LP |  | 7,248 |  | 570 |
| Maranon Mezzanine Fund, LP |  | 5,885 |  | 1,185 |
| Montreux Equity Partners IV, LP |  | 3,407 |  | 212 |
| Nautic Partners VI, LP |  | 11,714 |  | 787 |
| New Atlantic Venture Fund III, LP |  | 2,906 |  | 118 |
| New Mountain Partners III, LP |  | 11,402 |  | 743 |
| Oak Hill Capital Partners III, LP |  | 36,697 |  | 1,608 |
| Onex Partners III, LP |  | 5,133 |  | 983 |
| Partners Group Secondary 2008, LP |  | 22,831 |  | 1,567 |
| Paul Capital Partners IX, LP |  | 21,584 |  | 767 |
| Peninsula Technology Ventures, LP |  | 5,448 |  | 150 |
| Pine Brook Capital Partners II, LP |  | 14,988 |  | 799 |
| Platinum Equity Capital Partners II, LP |  | 13,969 |  | 356 |
| Quantum Energy Partners IV, LP |  | 1,686 |  | 675 |
| Resolute Fund III |  | 11,872 |  | 439 |
| Saybrook Corporate Opportunity Fund, LP |  | 8,018 |  | 376 |
| Seidler Equity Partners IV, LP |  | 961 |  | - |
| Silver Lakes Partners IV, LP |  | 16,478 |  | 435 |
| TCW/Crecent Mezzanine Partners V, LP |  | 28,445 |  | 1,008 |
| Thomas H Lee Equity Fund VI, LP |  | 23,274 |  | 245 |
| Warburg Pincus Private Equity X, LP |  | 22,562 |  | 698 |
| Wayzata Opportunities Fund II, LP |  | 36,845 |  | 792 |
| White Deer Energy, LP |  | 206 |  | 1,472 |
| Yucaipa American Alliance Fund II, LP |  | 28,308 |  | 698 |
| Total | \$ | 480,748 | \$ | 24,561 |

## Schedule of I nvestment Fees

## Opportunistic

(Dollars in Thousands)
$\left.\begin{array}{|lrrr|}\hline & \begin{array}{c}\text { Net Assets } \\ \text { Managed at } \\ \text { Fair Value at }\end{array} & \\ & \begin{array}{l}\text { Management \& } \\ \text { June 30, 2010 }\end{array} \\ \text { Other Fees }\end{array}\right]$

Arizona State Retirement System
A Component Unit of the State of Arizona


## Actuarial Section

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# Actuarial Certification - Plan and HBS 

Arizona State Retirement Plan
Actuarial Valuation - June 30, 2009

## Actuarial Certification <br> ARIZONA STATE RETIREMENT PLAN <br> 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, 2009. 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 532,160 members $-222,515$ active members, 210,509 inactive members, 94,424 retired members and beneficiaries, and 4,712 members on long term disability. In addition, there are 323 System retirees receiving only ad hoc benefits, 555 System retirees receiving only health insurance benefits, and 164 System retirees receiving both ad hoc benefits and health insurance benefits from the Plan.

The actuarial calculations establish a total benefit cost of $19.20 \%$ of the annual compensation of members. The total normal cost rate is $12.98 \%$ of compensation and the required amortization payment determined in accordance with Section $38-737$ is $6.17 \%$ of compensation. An additional $0.05 \%$ of pay is for rounding the employer and member rate to the nearest $0.05 \%$.

## Actuarial Valuation of the Plan as of June 30, 2009

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.
buckconsultants
an ACS company $\wedge_{c}$,

## Actuarial Certification - Plan and HBS

## Arizona State Retirement Plan

Actuarial Valuation - June 30, 2009
For example, the rate calculated in the June 30, 2009, valuation report ( $9.60 \%$ for each member and each employer) is applicable for the fiscal year beginning July 1, 2010.

## Funding Progress

The 2008 valuation determined the rate for fiscal 2010 as $9.00 \%$. The 2009 valuation calculates a rate of $9.60 \%$ to become effective July 1, 2010. 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

This valuation reflects the following changes in Plan provisions:

1. Effective July 1,2010 , members will be required to have five years of service credit in ASRS before initiating a service purchase.
2. Effective July 1, 2010, the maximum limit on ASRS pensions of $80 \%$ of 36 -month final average earnings is eliminated.
3. 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. ASRS is exempt from State Personnel Management and Personnel Board provisions and the State classification and compensation statute.
5. The scope of the early termination incentive statute is broadened and exceptions are limited.
6. 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.
Section 11 gives details of benefit provisions.

## Actuarial Certification - Plan and HBS

Arizona State Retirement Plan
Actuarial Valuation - June 30, 2009


#### Abstract

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 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, 2009. 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 Certification - Plan and HBS

Arizona State Retirement Plan
Actuarial Valuation - June 30, 2009
The actuarial cost factors as of June 30, 2009, for the total Plan are as follows:

| I. Actuarial accrued liabilities | 401(a) Account |  | 401(h) Account |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A. Liabilities due to member's benefits |  |  |  |  |  |  |
| a. Retirement benefits | \$ | 13,662,818,533 | \$ | 0 | \$ | 13,662,818,533 |
| b. Health insurance premium supplement |  | 0 |  | 776,581,851 |  | 776,581,851 |
| c. Disability deferred retirement benefits |  | 430,910,531 |  | 0 |  | 430,910,531 |
| d. Pre-retirement death benefits |  | 359,548,111 |  | 0 |  | 359,548,111 |
| e. Withdrawal benefits |  | 948,857,109 |  | 0 |  | 948,857,109 |
| f. Total active members | \$ | 15,402,134,284 | \$ | 776,581,851 | \$ | 16,178,716,135 |
| 2. Inactive members |  | 1,432,033,875 |  | 48,304,095 |  | 1,480,337,970 |
| 3. Retired members and beneficiaries |  | 16,896,871,278 |  | 587,762,201 |  | 17,484,633,479 |
| 4. Disabled members (deferred retirement) |  | 556,356,851 |  | 33,013,291 |  | 589,370,142 |
| 5. Benefit increases for other-than-plan members |  | 2,719,584 |  | 6,761,262 |  | 9,480,846 |
| 6. Total present value of benefits | \$ | 34,290,115,872 | \$ | 1,452,422,700 | \$ | 35,742,538,572 |
| B. Other miscellaneous liabilities and reserves |  | 0 |  | 0 |  | 0 |
| C. Reserve for future PBIs |  | 0 |  | 0 |  | 0 |
| D. Total actuarial accrued liability | \$ | 34,290,115,872 | \$ | 1,452,422,700 | \$ | 35,742,538,572 |
| II. Actuarial value of assets |  | 27,093,788,614 |  | 1,266,370,836 |  | 28,360,159,450 |
| III. Unfunded actuarial accrued liability (Item I - Item II) |  | 7,196,327,258 |  | 186,051,864 |  | 7,382,379,122 |
| IV. Amortization of unfunded actuarial accrued liability (per Section 38-737) |  | 591,883,524 |  | 15,302,394 |  | 607,185,918 |
| V. Normal cost for the year |  | 1,234,664,757 |  | 41,883,708 |  | 1,276,548,465 |
| VI. Total contribution for the year (Item IV + Item V) | \$ | 1,826,548,281 | \$ | 57,186,102 | \$ | 1,883,734,383 |
| VII. Total covered payroll (projected to 2009/2010 plan year) | \$ | 9,834,810,345 | \$ | 9,834,810,345 | \$ | 9,834,810,345 |
| VIII. Total contribution for fiscal year 2011 as a percentage of covered payrol |  |  |  |  |  |  |
| A. Member portion |  | 9.60\% |  | 0.00\% |  | 9.60\% |
| B. Employer portion |  | 9.01\% |  | 0.59\% |  | 9.60\% |
| C. Total |  | 18.61\% |  | 0.59\% |  | 19.20\% |

## Actuarial Certification - Plan and HBS

## Arizona State Retirement Plan

Actuarial Valuation - June 30, 2009
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, 2009. These assumptions are as follows:

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

| Years of <br> Service | Merit <br> Component |  | Total Salary <br> Increase |
| :---: | :---: | :---: | :---: |
|  |  | $5.00 \%$ |  |
| 2 |  |  | $9.50 \%$ |
| 3 |  | 2.00 |  |
| 4 |  | 8.50 |  |
| 5 |  |  | 7.00 |
| 6 |  |  | 6.30 |
| 7 | 1.25 |  | 5.90 |
| 8 | 1.00 |  | 5.75 |
| 9 | 0.80 |  | 5.50 |
| 10 | 0.75 |  | 5.30 |
| 11 to 19 | 0.50 |  | 5.25 |
| 20 or more | 0.25 |  | 4.00 |
|  | 0.00 |  | 4.75 |
|  |  |  |  |

* Total salary increase rate $=$ inflation $($ or growth $)$ rate $(3.75 \%)^{1}$
+ productivity increase rate $(0.75 \%)^{1}$
+ merit component

3. Rates of disability ${ }^{1}$

| Age |  | Males |  |
| :---: | :---: | :---: | :---: |
|  |  |  | Females |
| 20 |  | $0.04 \%$ |  |
| 30 | $0.05 \%$ |  | $0.06 \%$ |
| 40 |  | $0.16 \%$ |  |
| 50 | $0.38 \%$ |  | $0.08 \%$ |
| 60 | $0.90 \%$ |  | $0.36 \%$ |
| 0 |  | $0.82 \%$ |  |

4. Rates of withdrawal - Sample ages and years of service ${ }^{1}$

| Age | Years of Service |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male Members |  |  |  |  |
|  | 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 |

[^10]
## Actuarial Certification - Plan and HBS

## Arizona State Retirement Plan

Actuarial Valuation - June 30, 2009

| Age | Years of Service |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female Members |  |  |  |  |
|  | 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 ${ }^{1}$

| Age | Years of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 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 |

${ }^{1}$ New assumption as of June 30, 2009
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.
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.

## Actuarial Certification - Plan and HBS

## Arizona State Retirement Plan

Actuarial Valuation - June 30, 2009
9. Portion of members who will not withdraw their contributions ${ }^{1}$ - 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.
${ }^{1}$ New assumption as of June 30, 2009.
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

## 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, 2009

|  |  |  | Political <br> Subdivision |  |
| :--- | :---: | :---: | :---: | :---: |
| Active Members | State <br> Employees | Teachers | Employees | Total |
| Number of Members (active) | 44,280 | 70,063 | 108,172 | 222,515 |
| Average age | 46.5 | 43.4 | 45.9 | 45.2 |
| Average annual salary | $\$ 48,204$ | $\$ 49,050$ | $\$ 39,419$ | $\$ 44,198$ |
| Average years of service | 9.8 | 9.6 | 7.9 | 8.8 |

As of June 30, 2009

|  |  |  | Political <br> Subdivision |  |
| :--- | :---: | :---: | :---: | :---: |
| Retired Members | State <br> Employees | Teachers | Employees | Total |
| Number of Retirees | 23,025 | 29,271 | 42,128 | 94,424 |
| Average age | 70.5 | 68.3 | 70 | 69.6 |
| Average monthly benefit | $\$ 1,418$ | $\$ 2,249$ | $\$ 1,277$ | $\$ 1,613$ |
| Average years of service | 18.3 | 23.4 | 17.5 | 19.5 |

Of all plan retirees at June 30, 2009, 58.2\% received annuities of more than $\$ 1,000$ per month. $11.5 \%$ received less than $\$ 300$ per month. Of the retirees $14.3 \%$ are less than 60.0 years old, $58.7 \%$ are between 60 and 75 years old, and $27.0 \%$ are over 75 years old.

One of the most critical factors bearing on retirement costs is that of changes in the average salary level of active participants. The following chart will show, for five fiscal years, the average salary level for state employees, for teachers, and for political subdivision employees other than teachers, and the average for all groups combined.

|  |  |  |  |  |  |  |  |  |
| :--- | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $\mathbf{2 0 0 4 - 0 5}$ | $\mathbf{2 0 0 5 - 0 6}$ | $\mathbf{2 0 0 6 - 0 7}$ | $\mathbf{2 0 0 7 - 0 8}$ | $\mathbf{2 0 0 8 - 0 9}$ |  |  |  |
| State Employees | $\$$ | 40,270 | $\$$ | 40,328 | $\$$ | 43,565 | $\$$ | 46,498 |
| Teachers | 43,348 |  | 43,770 |  | 45,957 | 47,597 | 49,050 |  |
| Political Subdivision employees | 32,877 | 33,211 |  | 36,118 | 37,932 | 39,416 |  |  |
| All Groups | 37,853 | 38,185 |  | 40,901 | 42,879 | 44,198 |  |  |

## 2010 Comprehensive Annual Financial Report

## General Actuarial Information - Plan and HBS

## 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 , 2009, the date of the most recent actuarial valuation, this funding level is $79.3 \%$. When the present actuarial asset value of $\$ 28.360$ billion is compared to the actuarial liabilities of $\$ 35.742$ billion, actuarial liabilities exceed actuarial assets by the amount of $\$ 7.382$ billion.

A statutory change effective in 1998 requires that an actuarial valuation be performed only following even numbered years, rather than annually. This biannual valuation recommends contribution rates for a two-year period. Effective July 1, 2005, additional statutory changes require annual valuations after fiscal year ended June 30, 2007. These rates do not include contributions to the LTD program.

## Normal Costs and Required Contribution Rates

The Plan's normal cost for fiscal year (FY) 2008-2009 is $12.98 \%$ and for FY 2007-2008 is $12.90 \%$. 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 was 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 |  |
| :--- | ---: |
| Retirement benefits | $9.63 \%$ |
| Health insurance premium supplement | $0.43 \%$ |
| Survivor benefits | $0.33 \%$ |
| Withdrawals | $2.22 \%$ |
| Long-term disability benefit | $0.37 \%$ |
| Total, Normal Cost | $\mathbf{1 2 . 9 8 \%}$ |
| Amortization of the UALL | $6.17 \%$ |
| Required contribution rate for FY 2011 | $\mathbf{1 9 . 1 5 \%}$ |
| SHARED BY EMPLOYEE AND EMPLOYER | Divided by 2 |
| Required contribution rate for FY 2011 | $9.58 \%$ |
| Required matching contribution rate shared by | $9.60 \%$ |
| member and employer to the nearest 0.05\% |  |

## General Actuarial Information - Plan and HBS

## 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

The LTD contribution rate for fiscal year 2009 is .80 per cent and fiscal year 2008 is 1.00 percent, shared equally by employees and employers.

## Summary of Actuarial Method for Long Term Disability Benefit

The actuarial cost method is changed, effective for the 2005 valuation, to the projected 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.

## 2010 Comprehensive Annual Financial Report

## Summary of the Benefit Provisions <br> 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. RETI REMENT BENEFI TS

1. Normal Retirement Date (the earliest of the following):
a) an employee's sixty-fifth birthday,
b) an employee'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 employee's age and his years of total credited service equal eighty.

## 2. Monthly Life Annuity

The product of a benefit multiplier (as determined below) and the participant's best 36 month average compensation (in last 120 months) 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 <br> 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.

## Summary of the Benefit Provisions Plan and HBS

## 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:

Provided, however, that if the employee meets the Rule of 77 (but not the Rule of 80), the reduction will be $3 \%$ for each unit below 80 .

| Years of <br> Service | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 50 | 510 | Age at Date of Retirement |  |  |  |  |  |  |  |  |  |  |  |  |  |$|$

## 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 <br> Plan and HBS 

B. DISABI LITY 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 Participant 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 $\mathbf{\$ 5 0 . 0 0}$.
C. DISABI LI TY BENEFI TS (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 employee'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-RETI REMENT DEATH BENEFITS

## 1. Eligibility

Applicable if death occurs prior to retirement.

# Summary of the Benefit Provisions Plan and HBS 

## 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) two times participant's contributions to the plan, with interest, 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 Participant 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. VESTI NG OF BENEFITS

## 1. Vesting

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

## 2. Benefits Upon Vesting

A fully vested participant is entitled to either:
a) the enhanced refund option, or
b) the retirement benefit payable at normal retirement earned to the date of participant's termination.

The enhanced refund option allows employees who terminate prior to eligibility for retirement to receive a refund of their employee contributions with interest. In addition, if an employee 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 employees 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.

## 2010 Comprehensive Annual Financial Report

## Summary of the Benefit Provisions <br> Plan and HBS

## F. RETI REE HEALTH I NSURANCE PREMI UM 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:

- $\quad \$ 150$ 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:
- $\quad \$ 260$ per month if the member and dependents are under age 65
- $\$ 170$ per month if the member and dependents are 65 or over
- $\quad \$ 215$ per month if the member is over age 65 and the dependent is under age 65
- $\quad \$ 215$ per month if the member is under age 65 and the dependent is over age 65

For employees 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. AUTOMATI C COST OF LI VI NG ADJ USTMENT BASED ON EXCESS I NVESTMENT 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.

## Summary of the Benefit Provisions Plan and HBS

## 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 CONTRI BUTI ONS

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. Member's contribution rate is equal to the required employer contribution rate. The contribution rate for fiscal year 2010 is $9.00 \%$ for each member and each employer, based on the 2008 actuarial valuation. The contribution rate for fiscal year 2011 will be $9.60 \%$ based on the 2009 valuation.

# Statement of Actuarial Methods and Assumptions Used in Determining Cost <br> Plan and HBS 

(ADOPTED BY BOARD ACTION ON NOVEMBER 23, 2009)
EFFECTIVE AS OF JUNE 30, 2009

## A. Actuarial Assumptions

1. Investment Yield Rate

8\% per annum compounded annually, net of all expenses
2. Mortality
a) Pre-retirement

Assumption: 1994 GAM - Static Table, Projected to 2010 With Projection Scale AA, with no setback. Rates at representative ages are shown below:

| Rates of Mortality |  |  |  |
| :---: | :---: | :---: | :---: |
| (Active) |  |  |  |

b) Pre-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.

## Statement of Actuarial Methods and Assumptions Used in Determining Cost

Plan and HBS
(ADOPTED BY BOARD ACTION ON NOVEMBER 23, 2009) EFFECTIVE AS OF JUNE 30, 2009

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Rates of Mortality |  |  |  |
|  | Male Participants | Female Participants |  |  |
| 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 |

## 3. Disability Rates

| 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 |

## 2010 Comprehensive Annual Financial Report

## Statement of Actuarial Methods and Assumptions Used in Determining Cost

Plan and HBS
(ADOPTED BY BOARD ACTION ON NOVEMBER 23, 2009) EFFECTIVE AS OF JUNE 30, 2009
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.

| Rates of Decrement Due to Withdrawal |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Years of SERVICES |  |  |  |  |  |  |  |  |  |  |  |
| AGE | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ |
| MALE EMPLOYEES |  |  |  |  |  |  |  |  |  |  |  |
| 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 | 0.0549 | 0.0800 | 0.0700 | 0.0575 | 0.0525 | 0.0243 |
| FEMALE EMPLOYEES |  |  |  |  |  |  |  |  |  |  |  |
| 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 <br> Service | Merit <br> Component | Total Salary <br> Increase* |
| :---: | :---: | :---: |
| 1 | $5.00 \%$ | $9.50 \%$ |
| 2 | $4.00 \%$ | $8.50 \%$ |
| 3 | $2.50 \%$ | $7.00 \%$ |
| 4 | $1.80 \%$ | $6.30 \%$ |
| 5 | $1.40 \%$ | $5.90 \%$ |
| 6 | $1.25 \%$ | $5.75 \%$ |
| 7 | $1.00 \%$ | $5.50 \%$ |
| 8 | $0.80 \%$ | $5.30 \%$ |
| 9 | $0.75 \%$ | $5.25 \%$ |
| 10 | $0.50 \%$ | $5.00 \%$ |
| 11 to 19 | $0.25 \%$ | $4.75 \%$ |
| 20 or more | $0.00 \%$ | $4.50 \%$ |

[^11]
# Statement of Actuarial Methods and Assumptions Used in Determining Cost 

Plan and HBS
(ADOPTED BY BOARD ACTION ON NOVEMBER 23, 2009)
EFFECTIVE AS OF JUNE 30, 2009

## 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 | 10-18 | 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 Termination 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.

## Plan and HBS Schedules

## 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, 2009, the period is 30 years.

## D. Data for Valuation

In preparing the actuarial valuation as of June 30, 2009, 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 <br> AS OF JUNE 30 | NUMBER | ANNUAL PAYROLL | ANNUAL AVERAGE <br> PAY | INCREASE IN <br> AVERAGE PAY |
| :---: | :---: | ---: | :---: | :---: |
| 2004 |  | $\$ 9,485,590,038$ | $\$$ | 36,429 |
| 2005 | 212,202 | $8,032,457,947$ | 37,853 | 1.0 |
| 2006 | 217,676 | $8,311,869,615$ | 38,185 | 3.9 |
| 2007 | 224,001 | $9,161,803,726$ | 40,901 | 0.9 |
| 2008 | 226,415 | $9,708,352,896$ | 42,879 | 7.1 |
| 2009 | 222,515 | $9,834,810,345$ | 44,198 | 4.8 |

## Plan and HBS Schedules

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

Last 6 Years

| Valuation as of J une 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 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NO. |  | ANNUAL LOWANCES | NO. |  | NNUAL WANCES | NO. |  | ANNUAL LOWANCES |  |  |  |
| 2004 | 6,430 | \$ | 169,063,326 | 2,196 | \$ | 26,982,679 | 68,931 | \$ | 1,230,025,859 | 6.1\% | \$ | 17,844 |
| 2005 | 7,005 |  | 136,009,712 | 2,083 |  | 29,472,225 | 73,853 |  | 1,336,563,347 | 1.4\% |  | 18,098 |
| 2006 | 7,143 |  | 170,867,676 | 2,498 |  | 32,717,257 | 78,498 |  | 1,474,713,766 | 3.8\% |  | 18,787 |
| 2007 | 7,393 |  | 144,536,847 | 2,297 |  | 30,532,270 | 83,594 |  | 1,588,718,343 | 1.2\% |  | 19,005 |
| 2008 | 7,784 |  | 148,885,733 | 2,422 |  | 33,418,979 | 88,956 |  | 1,704,185,097 | 1.0\% |  | 19,158 |
| 2009 | 7,958 |  | 153,218,995 | 2,490 |  | 30,033,184 | 94,424 |  | 1,827,370,908 | 1.0\% |  | 19,353 |

*Percentages calculated. (Current year Average Benefit minus Prior year Average Benefit divided by Prior year Average Benefit.)

## Schedule of Unfunded (Over) Accrued Liabilities - Plan

## Last 10 Years

| $\begin{gathered} \text { Year Ended } \\ \text { June } 30 \\ \hline \end{gathered}$ | Aggregate Accrued Liabilities Plan | Actuarial Value of Net Plan Assets | Assets as a \% of Accrued Liabilities Plan |  | Unfunded over) Accrued iabilities Plan (UAL) |  | tive Member Payroll | UAL as a \% of Active Member Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2000 | 17,548,523,131 | \$ 21,126,877,491 | 120\% | \$ | (3,578,354,360) | \$ | 5,750,294,662 | -62.20\% |
| 2001 | 20,268,514,444 | 22,855,143,539 | 113\% |  | $(2,586,629,095)$ |  | 6,356,698,800 | -40.70\% |
| 2002 | 22,586,920,751 | 23,623,015,969 | 105\% |  | (1,036,095,218) |  | 6,989,339,000 | -14.80\% |
| 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 Comprehensive Annual Financial Report

## Plan and HBS Schedules

## Solvency Test

Last 10 Years

| Year End June 30 | Aggregate Accrued Liabilities for: |  |  |  |  |  |  | Portion of Accrued Liabilities Covered by Net Assets Available for Benefits |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ACTIVE MEMBER CONTRIBUTIONS |  | RETIREES AND BENEFICIARIES |  | ACTIVE MEMBERS (EMPLOYER FINANCED PORTION) <br> (3) |  | Net Assets Available for Benefits |  |  |  |
|  |  | (1) |  | (2) |  |  |  | (2) | (3) |
| 2000 | \$ | 2,758,428,341 | \$ | 8,817,967,086 | \$ | 7,233,553,039 |  | \$ 21,126,877,491 | 100\% | 100\% | 132.0\% |
| 2001 |  | 2,876,445,119 |  | 9,589,562,912 |  | 7,427,960,808 | 22,855,143,539 | 100\% | 100\% | 139.8\% |
| 2002 |  | 3,046,008,125 |  | 10,597,364,389 |  | 8,943,548,237 | 23,623,015,969 | 100\% | 100\% | 111.2\% |
| 2003 |  | 3,110,690,039 |  | 11,428,652,014 |  | 9,764,297,394 | 23,516,898,511 | 100\% | 100\% | 91.9\% |
| 2004 |  | 3,407,611,954 |  | 12,421,950,646 |  | 10,088,766,905 | 23,642,904,763 | 100\% | 100\% | 77.4\% |
| 2005 |  | 3,717,945,957 |  | 13,522,905,728 |  | 10,701,749,600 | 23,836,519,123 | 100\% | 100\% | 61.6\% |
| 2006 |  | 4,168,243,157 |  | 14,576,747,255 |  | 10,951,640,850 | 24,851,522,776 | 100\% | 100\% | 55.8\% |
| 2007 |  | 5,533,036,906 |  | 15,789,894,783 |  | 10,672,739,737 | 26,476,687,905 | 100\% | 100\% | 48.3\% |
| 2008 |  | 6,256,502,949 |  | 16,977,582,248 |  | 10,636,779,548 | 27,851,825,730 | 100\% | 100\% | 43.4\% |
| 2009 |  | 7,054,925,502 |  | 18,083,484,467 |  | 10,604,128,603 | 28,360,159,450 | 100\% | 100\% | 30.4\% |

## Schedule of Recommended vs. Actual Plan Contributions

Last 10 Years
(Dollars in Thousands)

| Year Ended | Active <br> Member <br> Payroll | Employee <br> Contributions | Employer <br> Retirement <br> Rate - Actual | Actuary <br> Recommended <br> Contribution |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2000 | $\$ 5,750,000,000$ | $\$$ | $124,930,657$ | $2.17 \%$ | $2.17 \%$ |
| 2001 | $6,564,000,000$ | $133,504,099$ | $2.00 \%$ | $2.00 \%$ |  |
| 2002 | $6,989,000,000$ | $135,274,945$ | $2.00 \%$ | $2.00 \%$ |  |
| 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 | $8,312,000,000$ | $570,581,044$ | $6.90 \% * *$ | $7.75 \% * *$ |  |
| 2007 | $9,162,000,000$ | $766,624,734$ | $8.60 \% * *$ | $7.75 \%^{* *}$ |  |
| 2008 | $9,708,000,000$ | $857,502,851$ | $9.10 \%$ | $9.10 \%$ |  |
| 2009 | $9,835,000,000$ | $844,405,884$ | $8.95 \%$ | $8.95 \%$ |  |

[^12]
## Plan and HBS Schedules

## Analysis of Financial Experience for the Plan

Last 10 Years
(Dollars in Millions)

| Year <br> Ended <br> June 30 | Unfunded <br> Actuarial <br> Liability <br> (UAAL) <br> Prior Year | Normal Cost for the Year | Contributions for the Year |  |  | terest 8\% on UAAL | On <br> Normal Cost |  | $\begin{array}{r} 0 \\ \text { ontrib } \end{array}$ | utions | Total | Expected UAAL | Actual UAAL | Gain (Loss) for the Year* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2000 | \$ $(2,639.06)$ | \$ 601.15 | \$ | (283.77) | \$ | (211.12) | \$ 48.09 | \$ |  | (11.35) | \$ (174.38) | \$ $(2,496.06)$ | \$ (3,578.35) | \$ 1,082.29 |
| 2001 | $(3,578.35)$ | 631.66 |  | (367.20) |  | (286.27) | 50.53 |  |  | (14.69) | (250.42) | $(3,564.30)$ | $(2,586.63)$ | (977.67) |
| 2002 | $(2,586.63)$ | 746.91 |  | (321.78) |  | (206.93) | 59.75 |  |  | (12.87) | (160.05) | $(2,321.54)$ | $(1,036.10)$ | $(1,285.44)$ |
| 2003 | $(1,036.10)$ | 831.73 |  | (375.52) |  | (82.89) | 66.54 |  |  | (15.02) | (31.37) | (611.26) | 786.74 | $(1,397.97)$ |
| 2004 | 786.74 | 950.78 |  | (865.97) |  | 62.94 | 76.06 |  |  | (34.64) | 104.36 | 975.91 | 2,275.42 | $(1,299.51)$ |
| 2005 | 2,275.42 | 1,010.22 |  | (946.70) |  | 182.03 | 80.82 |  |  | (37.87) | 224.98 | 2,563.94 | 4,106.08 | $(1,542.15)$ |
| 2006 | 4,106.08 | 1,075.46 |  | $(1,265.19)$ |  | 328.49 | 86.04 |  |  | (50.61) | 363.92 | 4,280.27 | 4,845.11 | (564.84) |
| 2007 | 4,845.11 | 1,171.61 |  | $(1,631.17)$ |  | 387.61 | 93.73 |  |  | (65.25) | 416.09 | 4,801.64 | 5,518.98 | (717.34) |
| 2008 | 5,518.98 | 1,218.90 |  | $(1,715.70)$ |  | 441.52 | 97.51 |  |  | (68.63) | 470.40 | 5,492.58 | 6,019.04 | (526.46) |
| 2009 | 6,019.04 | 1,251.48 |  | $(1,688.81)$ |  | 481.52 | 100.12 |  |  | (67.55) | 514.09 | 6,095.80 | 7,382.38 | $(1,286.58)$ |

[^13]
# Actuarial Certification - LTD 

## buckconsultants <br> an acs company $\mathbf{~} \mathbf{c} \mathbf{s}$

January 21, 2010

Retirement Board
Arizona State Retirement System
3300 North Central Avenue
$14^{\text {th }}$ Floor
Phoenix, AZ 85012

## Valuation of the ASRS Long Term Disability Program as of June 30, 2009

Dear Retirement Board Members:
We certify that the information contained in the attached 2009 actuarial valuation report is accurate and fairly presents the actuarial position of the Arizona State Retirement System Long Term Disability Program (the LTD Program) as of June 30, 2009.

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 actuaries are independent. They are both Enrolled Actuaries, members of the American Academy of Actuaries and Fellows of the Society of Actuaries. Both are experienced in performing valuations for large public retirement systems and are fully qualified to provide actuarial services to the State of Arizona.

## 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.

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

## Actuarial Certification - LTD

## Retirement Board

January 21, 2010

## 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 ( $0.25 \%$ for each employer and employee) will apply in the fiscal year beginning July 1, 2010. 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.

## Benefit Provisions

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. These assumptions are first effective for the valuation as of June 30, 2009.

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.

## Actuarial Certification - LTD

Retirement Board
January 21, 2010

Data
ASRS staff and Sedgwick (the administrator of the LTD program) supplied census data for participants as of June 30, 2009. 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 CAFF.

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


Charles E. Chittenden, FSA, EA, MAAA


Michelle Reading DeLange, FSA, EA, MAAA

## 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, 2009, actuarial valuation of the Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program.

|  |  |  |
| :--- | ---: | ---: |
| Amount in 000's | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 0 9}$ |
| Normal Cost | $\$$ | 46,424 |
| Actuarial Accrued Liability | 553,185 | 33,520 |
| Valuation Assets | 274,902 | 476,276 |
| Funded Status | $49.69 \%$ | 611,232 |
| Unfunded Actuarial Accrued Liability |  | $65.35 \%$ |
| (UAAL) | 278,283 | 165,044 |
| Past Service Cost | 30,104 | 17,854 |
| Annual Required Contribution (ARC) | 76,528 | 51,374 |
| Payroll | $9,708,353$ | $9,834,810$ |
| ARC as \% of payroll for each employer | $0.39 \%$ | $0.26 \%$ |
| and each member | $2.90 \%$ | $1.70 \%$ |
| UAAL as \% of payroll |  |  |

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 | 4,712 |  |
| :--- | ---: | ---: |
| Average Age | 54.3 |  |
| Average Monthly Benefit | $\$$ | 1,258 |

## 2010 Comprehensive Annual Financial Report

## 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 current rate is . $25 \%$ 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-inflected 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.

## Summary of Benefit Provisions - LTD

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 / year |

Changes in Plan Terms Since the Prior Valuation: No changes have been made since the last valuation on June 30, 2008.

## Statement of Actuarial Methods and Assumptions Used in Determining Cost - 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, 2009, 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 them in its meetings of November 23, 2009.

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 years in level dollar payments.

## Summary of Actuarial Assumptions

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. These assumptions are first effective for the valuation as of June 30, 2009.

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 unique to the LTD valuation were as follows:

# Statement of Actuarial Methods and Assumptions Used in Determining Cost - LTD 

## Actuarial Assumptions

## 1. Discount Rate

$8 \%$ per annum
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:

| 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 $40 \%$ since that is the average reduction for current open claims. We also assume that the weighted average months of overpayment is equal to 19 months.

These assumptions are reviewed annually.

# Statement of Actuarial Methods and Assumptions Used in Determining Cost - LTD 

## 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

Rates of retirement, rates of disability and rates of withdrawal were updated to rates recommended as a result of the last experience analysis. The inflation (or growth) rate deceased from $4.25 \%$ to $3.75 \%$. The real rate of return increased from 3.75\% to 4.25\%.

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 J une 30 | Retirants and Beneficiaries Added to Rolls |  |  | Retirants and Beneficiaries Removed from Rolls |  |  | Retirants and Beneficiaries Rolls End of Year |  |  | \% Increase in Annual Allowance | AverageAnnualAllowances |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NO. |  | ANNUAL LOWANCES | NO. |  | ANNUAL LOWANCES | NO. |  | ANNUAL LOWANCES |  |  |
| 2004 | 865 | \$ | 14,403,292 | 742 | \$ | 9,301,684 | 4,684 | \$ | 61,299,216 | 9.1\% | 13,087 |
| 2005 | 926 |  | 15,285,111 | 671 |  | 11,000,763 | 4,939 |  | 65,583,564 | 7.0\% | 13,279 |
| 2006 | 840 |  | 16,021,268 | 761 |  | 12,191,399 | 5,018 |  | 69,413,433 | 5.8\% | 13,833 |
| 2007 | 800 |  | 15,958,305 | 747 |  | 13,060,111 | 5,071 |  | 72,311,627 | 4.2\% | 14,260 |
| 2008 | 640 |  | 12,610,021 | 829 |  | 16,270,484 | 4,882 |  | 68,651,164 | -5.1\% | 14,062 |
| 2009 | 723 |  | 15,966,067 | 893 |  | 13,502,776 | 4,712 |  | 71,114,455 | 3.6\% | 15,092 |

## Schedule of Unfunded (Over) Accrued Liabilities

Last 6 Years
(Dollars in Thousands)

| Year <br> Ended <br> J une 30 | Actuarial Accrued Liabilities Plan |  | Actuarial Value of Net Plan Assets | Assets as a \% of Accrued Liabilities Plan |  | funded Over) ccrued bilities <br> n (UAL) | Active Member Payroll | UAL as a \% of Active Member Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2004 | \$ | 544,205 | \$ 137,861 | 25.3\% | \$ | 406,344 | \$7,458,590 | 5.40\% |
| 2005 |  | 577,405 | 164,834 | 28.5\% |  | 412,572 | 8,032,458 | 5.10\% |
| 2006 |  | 574,701 | 194,297 | 33.8\% |  | 380,404 | 8,311,870 | 4.60\% |
| 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 Comprehensive Annual Financial Report

LTD Schedules

## Solvency Test

Last 6 Years
(Dollars in Thousands)

| Aggregate Accrued Liabilities for: |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year End June 30 | ACTIVE MEMBER CONTRIBUTIONS (1) |  | EES AND <br> (2) | ACTIVE MEMBERS (EMPLOYER FINANCED PORTION) <br> (3) |  | Net Assets Available for Benefits |  | Portion of Accrued Liabilities Covered by Net Assets Available for Benefits <br> (1) <br> (2) <br> (3) |  |  |
| 2004 |  | \$ | 243,713 | \$ | 300,492 * | \$ | 137,861 | 100\% | 57\% | 0\% |
| 2005 | - |  | 258,735 |  | 318,670 |  | 164,834 | 100\% | 64\% | 0\% |
| 2006 | - |  | 247,577 |  | 327,124 |  | 194,297 | 100\% | 78\% | 0\% |
| 2007 | - |  | 274,947 |  | 329,539 |  | 231,685 | 100\% | 84\% | 0\% |
| 2008 |  |  | 233,871 |  | 319,315 |  | 274,902 | 100\% | 100\% | 13\% |
| 2009 | - |  | 235,921 |  | 240,355 |  | 311,232 | 100\% | 100\% | 31\% |

* The 2004 valuation results are from a study of the effects of adopting GASB \#43. The formal valuation report did not use the GASB methodology.


## Schedule of Recommended vs. Actual LTD Contributions

Last 10 Years
(Dollars in Thousands)

| Year <br> Ended <br> June 30 | Active <br> Member <br> Payroll | Employee <br> Contributions | Employer <br> Retirement <br> Rate - Actual | Actuary <br> Recommended <br> Contribution |
| :---: | :---: | :---: | :---: | :---: |
| 2000 | $\$ 5,750,000$ | $\$$ | 28,750 | $0.50 \%$ |
| 2001 | $6,564,000$ | 32,820 | $0.50 \%$ | $0.50 \%$ |
| 2002 | $6,989,000$ | 34,945 | $0.50 \%$ | $0.50 \%$ |
| 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 | $0.50 \%$ | $0.50 \%$ |

## LTD Schedules

## Analysis of Financial Experience for LTD

As of June 30, 2009

|  | Lives |  | eserves |
| :---: | :---: | :---: | :---: |
| The increase in the reserves for payments not yet due on disabled lives may be summarized as follows: |  |  |  |
| (a) Open Claims Reserve Liability on July 1, 2008 <br> (b) Change in reserve on 3,989 continuing disabled lives <br> (c) Reserves released on terminated lives <br> (d) Reserves added on new lives <br> (e) Open Claims Reserve Liability on J une 30, 2009 $=(\mathrm{a})+(\mathrm{b})+(\mathrm{c})+(\mathrm{d})$ | $\begin{gathered} 4,882 \\ \mathrm{~N} / \mathrm{A} \\ -893 \\ 723 \\ 4,712 \end{gathered}$ | \$ | $226,922,223$ <br> $(23,470,833)$ <br> $(24,097,674)$ <br> $49,998,995$ <br> $229,352,711$ |
| 2. DEVELOPMENT OF LIABILITY (GAIN)/LOSS |  |  |  |
| (a) Actuarial Accrued Liability as of July 1, 2008 <br> (b) Normal Cost for 2008/2009 <br> (c) Expected Benefit Payments for 2008/2009 <br> (d) Expected Actuarial Accrued Liability on June 30, 2009 $=((a)+(b)) \times 1.08-(c) \times(1+.08 \times 13 / 24)$ <br> (e) Change in Plan Terms <br> (f) Change in Assumptions <br> (g) Liability (Gain)/Loss <br> (h) Actual Actuarial Accrued Liability on June 30, 2009 $=(\mathrm{d})+(\mathrm{e})+(\mathrm{f})+(\mathrm{g})$ |  | \$ | $553,185,484$ $46,423,979$ $67,313,000$ $577,348,324$ $\mathrm{~N} / \mathrm{A}$ $(89,596,164)$ $(11,476,472)$ $476,275,688$ |
| 3. SOURCES OF LIABILITY (GAIN)/LOSS |  |  |  |
| (a) Offset (Gain)/Loss <br> (b) New LTD Retirees Not in Prior Valuation <br> (c) More Terminations than Expected <br> (d) Fewer LTD Retirees than Expected <br> (e) Salary Gain on Continuing Actives <br> (f) New Active Entrants <br> (g) Other (Gain)/Loss <br> (h) Liability (Gain)/Loss |  | \$ | $3,484,379$ $9,187,815$ $(5,690,664)$ $(27,227,945)$ $(3,109,353)$ $8,002,803$ $3,876,493$ |
| $=(\mathrm{a})+(\mathrm{b})+(\mathrm{c})+(\mathrm{d})+(\mathrm{e})+(\mathrm{f})+(\mathrm{g})$ |  | \$ | $(11,476,472)$ |

## 2010 Comprehensive Annual Financial Report

## LTD Schedules

4. DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
(a) Excess (Shortfall) of Investment Income:
(i) Current Year
(ii) Current Year - 1
(iii) Current Year - 2
(iv) Current Year - 3
\$ $(68,696,736)$
$(44,661,134)$
11,421,699
1,895,241
(61,827,062)
$(35,728,907)$
7,995,189
1,137,145
$(88,423,635)$
222,807,994
\$ 311,231,629
5. DEVELOPMENT OF ASSET (GAIN)/LOSS
(a) Actuarial Value of Assets as of July 1, 2008
\$ 274,902,088
(b) Contributions
(c) Actual Benefit Payments for 2008/2009
(d) Expected Investment Income at 8\% Return
(e) Expected Actuarial Assets as of June 30, 2009

$$
=(\mathrm{a})+(\mathrm{b})-(\mathrm{c})+(\mathrm{d})
$$

326,465,165
(f) Gain/(Loss) on Actuarial Assets

15,233,536
(g) Actuarial Assets as of June 30, 2009

$$
=(e)-(f)
$$

\$ 311,231,629
The asset loss is due to investment earnings on actuarial assets less than expected. The actual net return on actuarial assets was $3.68 \%$, compared to the assumption of $8 \%$. The actual net return on market value of assets was ( $18.76 \%$ ), compared to the assumption of $8.00 \%$.

| 6. ANALYSIS OF SEDGWICK OFFSETS | TOTAL AMOUNT | OF MONTHLY |
| :---: | :---: | :---: |
| OF MBER WITH |  |  |
| OFFSETS | OFFSETS |  |


| Description of Offset from Sedgwick as of June 30, 2009 |  |  |  |
| :--- | ---: | ---: | ---: |
| Social Security Disability | $\$$ | $2,230,183$ | 3,464 |
| Social Security Retirement |  | 135,014 | 165 |
| Other |  | 462,421 | 990 |
| Total | $\$$ | $\mathbf{2 , 8 2 7 , 6 1 8}$ | $\mathbf{4 , 6 1 9}$ |
| Description of Offset from Sedgwick as of June 30, 2008 |  |  |  |
| Social Security Disability | $\$$ | $2,239,847$ | 3,584 |
| Social Security Retirement |  | 138,570 | 172 |
| Other |  | 495,602 | 1,027 |
| $\quad$ Total | $\mathbf{\$}$ | $\mathbf{2 , 8 7 4 , 0 1 9}$ | $\mathbf{4 , 7 8 3}$ |

# Summary of Legislative Plan Changes 

## A. LEGI SLATED PLAN CHANGES ENACTED BY THE 1989 LEGI SLATURE OF the state of ARI ZONA

## 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. $\mathbf{\$ 1 2 , 0 0 0}$ 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. $\mathbf{2 . 0 \%}$ 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. LEGI SLATED PLAN CHANGES ENACTED BY THE 1990 LEGI SLATURE OF THE STATE OF ARI ZONA

1. Rule of $\mathbf{8 2}$

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 .

# Summary of Legislative Plan Changes 

## 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. LEGI SLATED PLAN CHANGES ENACTED BY THE 1991 LEGI SLATURE 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 $\mathbf{8 0}$

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.

# Summary of Legislative Plan Changes 

## D. LEGI SLATED PLAN CHANGES ENACTED BY THE 1992 LEGI SLATURE OF THE STATE OF ARI ZONA

## 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 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 (ac-cumulated 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.

## Summary of Legislative Plan Changes

## E. LEGISLATED PLAN CHANGES ENACTED BY THE 1993 LEGI SLATURE 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. LEGI SLATED PLAN CHANGES ENACTED BY THE 1994 LEGI SLATURE OF THE STATE OF ARI ZONA

## 1. Minimum LTD Benefit

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

## 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.

## Summary of Legislative Plan Changes

## G. LEGI SLATED PLAN CHANGES ENACTED BY THE 1995 LEGI SLATURE 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. LEGI SLATED PLAN CHANGES ENACTED BY THE 1996 LEGI SLATURE OF THE STATE OF ARIZONA

1. No material changes.

## I. LEGISLATED PLAN CHANGES ENACTED BY THE 1997 LEGI SLATURE 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. LEGI SLATED PLAN CHANGES ENACTED BY THE 1998 LEGI SLATURE OF THE STATE OF ARI ZONA

1. No material changes.

# Summary of Legislative Plan Changes 

## K. LEGISLATED PLAN CHANGES ENACTED BY THE 1999 LEGI SLATURE 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 $\mathbf{2 . 1 \%}$

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 LEGI SLATURE OF THE STATE OF ARI ZONA

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

## M. LEGI SLATED PLAN CHANGES ENACTED BY THE 2001 LEGI SLATURE 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 $\$ 150$


## Summary of Legislative Plan Changes

- 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


## 2010 Comprehensive Annual Financial Report

## Summary of Legislative Plan Changes

- Benefit for Medicare eligible members with non-Medicare eligible dependent with family coverage of $\$ 470$ per month
- 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 LEGI SLATURE OF THE STATE OF ARIZONA

1. No material changes.

## O. LEGISLATED PLAN CHANGES ENACTED BY THE 2003 LEGI SLATURE 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.

|  | Insurance Coverage <br> without Medicare <br> Paral Health Insurance <br> Subsidy | Insurance Coverage with <br> Medicare Parts A \& B* |  |  |
| :---: | :---: | :---: | :---: | :---: |
| SINGLE | FAMI LY | SINGLE | FAMILY |  |
| Required Minimum Out-of-Pocket <br> Payment | $\$ 125$ | $\$ 425$ | $\$ 100$ | $\$ 200$ |
| Rural Health Insurance Subsidy <br> (Maximums) | Up to $\$ 300$ | Up to $\$ 600$ | Up to $\$ 170$ | Up to \$350 |

[^14]
# Summary of Legislative Plan Changes 

## P. LEGISLATED PLAN CHANGES ENACTED BY THE 2004 LEGI SLATURE OF the state of ARI ZONA

1. Service Purchase Program

The Arizona Legislature revised the method of calculating the cost of service purchases was revised so that future purchases 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 LEGI SLATURE OF THE STATE OF ARIZONA

1. Temporary Rural Health Insurance Premium Benefit

The temporary Rural Health Insurance Subsidy was extended 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. LEGI SLATED PLAN CHANGES ENACTED BY THE 2006 LEGI SLATURE OF THE STATE OF ARI ZONA

## 1. Elections After Retirement

## 2010 Comprehensive Annual Financial Report

## Summary of Legislative Plan Changes

The ability of ASRS retirees to rescind their elections after retirement was limited. 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 modified Deferred Retirement Option Plan (DROP) was repealed.

## S. LEGISLATED PLAN CHANGES ENACTED BY THE 2007 LEGI SLATURE 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.

## 2. Temporary Rural Health Insurance Premium Benefit

The temporary Rural Health Insurance Subsidy was extended 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.

# Summary of Legislative Plan Changes 

## T. LEGISLATED PLAN CHANGES ENACTED BY THE 2008 LEGI SLATURE OF the state of Arizona

## 1. Unclaimed Property Exemption and Procedures

ASRS was exempted from unclaimed property statutes. ASRS members will forfeit their benefits if they do not claim them by the time they reach age $731 / 2$. 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 $651 / 2$, 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, retired or disabled members 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.

## Summary of Legislative Plan Changes

## U. LEGISLATED PLAN CHANGES ENACTED BY THE 2009 LEGI SLATURE 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. $\mathbf{8 0 \%}$ 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.

## 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.

## Arizona State Retirement System



## Statistical Section

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## 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.

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Financial Trends: Net Assets
Last 10 Fiscal Years (Dollars in Thousands)

| Retirement Net Assets | Fiscal Year |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASSETS | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Cash, Receivables, and Prepaids Investments at Fair | \$ 290,502 | 307,934 | \$ 414,382 | \$ 2,139,601 | \$ 2,091,244 | \$ 2,396,175 | \$ 2,197,053 | \$ 2,095,722 | \$ 867,888 | \$ 975,021 |
| Value | 22,267,217 | 20,120,799 | 20,659,916 | 23,291,652 | 24,154,827 | 25,699,691 | 30,978,445 | 29,021,366 | 23,379,787 | 24,620,142 |
| Total Assets | 22,557,719 | 20,428,733 | 21,074,298 | 25,431,253 | 26,246,071 | 28,095,866 | 33,175,498 | 31,117,088 | 24,247,675 | 25,595,163 |
| LIABILITIES |  |  |  |  |  |  |  |  |  |  |
| Investments Payable | 1,753,889 | 2,081,206 | 3,149,294 | 4,938,242 | 4,654,687 | 4,853,112 | 6,078,211 | 6,368,470 | 4,313,128 | 3,404,191 |
| Other Payables | 5,503 | 569 | 3,423 | 7,822 | 20,470 | 23,108 | 27,729 | 31,431 | 54,094 | 44,012 |
| Total Liabilities | 1,759,392 | 2,081,775 | 3,152,717 | 4,946,064 | 4,675,157 | 4,876,220 | 6,105,940 | 6,399,901 | 4,367,222 | 3,448,203 |
| TOTAL NET ASSETS | \$20,798,327 | \$18,346,958 | \$17,921,581 | \$20,485,189 | \$21,570,914 | \$23,219,646 | \$27,069,558 | \$24,717,187 | \$19,880,453 | \$22,146,960 |


| HBS Net Assets | Fiscal Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASSETS |  | 2001 |  | 2002 |  | 2003 |  | 2004 |  | 2005 |  | 2006 |  | 2007 |  | 2008 |  | 2009 |  | 2010 |
| Cash, Receivables, and Prepaids | \$ | 10,597 | \$ | 12,276 | \$ | 15,451 | \$ | 85,226 | \$ | 85,061 | \$ | 96,084 | \$ | 90,106 | \$ | 94,213 | \$ | 45,385 | \$ | 48,532 |
| Investments at Fair Value |  | 899,282 |  | 843,856 |  | 805,430 |  | 917,308 |  | 974,406 |  | 1,081,538 |  | 1,335,221 |  | 1,273,867 |  | 1,046,717 |  | 1,101,174 |
| Total Assets |  | 909,879 |  | 856,132 |  | 820,881 |  | 1,002,534 |  | 1,059,467 |  | 1,177,622 |  | 1,425,327 |  | 1,368,080 |  | 1,092,102 |  | 1,149,706 |
| LIABILITIES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Investments Payable |  | 70,833 |  | 87,285 |  | 122,775 |  | 194,486 |  | 187,770 |  | 204,237 |  | 261,980 |  | 279,619 |  | 193,139 |  | 152,374 |
| Other Payables |  | 14 |  | - |  | - |  | - |  | 60 |  | 3,639 |  | 394 |  | 475 |  | 1,770 |  | 1,737 |
| Total Liabilities |  | 70,847 |  | 87,285 |  | 122,775 |  | 194,486 |  | 187,830 |  | 207,876 |  | 262,374 |  | 280,094 |  | 194,909 |  | 154,111 |
| TOTAL NET ASSETS | \$ | 839,032 | \$ | 768,847 | \$ | 698,106 | \$ | 808,048 | \$ | 871,637 | \$ | 969,746 | \$ | 1,162,953 | \$ | 1,087,986 | \$ | 897,193 | \$ | 995,595 |


| LTD Net Assets | Fiscal Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASSETS |  | 2001 |  | 2002 |  | 2003 |  | 2004 |  | 2005 |  | 2006 |  | 2007 |  | 2008 |  | 2009 |  | 2010 |
| Cash, Receivables, and Prepaids | \$ | 13,214 | \$ | 5,184 | \$ | 4,145 | \$ | 7,641 | \$ | 14,040 | \$ | 15,241 | \$ | 10,565 | \$ | 12,331 | \$ | 11,998 | \$ | 6,808 |
| Investments at Fair Value |  | 80,143 |  | 90,048 |  | 108,364 |  | 130,428 |  | 151,025 |  | 180,983 |  | 233,148 |  | 233,062 |  | 215,151 |  | 243,823 |
| Total Assets |  | 93,357 |  | 95,232 |  | 112,509 |  | 138,069 |  | 165,065 |  | 196,224 |  | 243,713 |  | 245,393 |  | 227,149 |  | 250,631 |
| LIABILITIES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Investments Payable |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Other Payables |  | 174 |  | 1,228 |  | 2,308 |  | 207 |  | 231 |  | 222 |  | 227 |  | 222 |  | 4,341 |  | 252 |
| Total Liabilities |  | 174 |  | 1,228 |  | 2,308 |  | 207 |  | 231 |  | 222 |  | 227 |  | 222 |  | 4,341 |  | 252 |
| TOTAL NET ASSETS | \$ | 93,183 | \$ | 94,004 | \$ | 110,201 | \$ | 137,862 | \$ | 164,834 | \$ | 196,002 | \$ | 243,486 | \$ | 245,171 | \$ | 222,808 | \$ | 250,379 |

Financial Trends: Changes in Net Assets Last 10 Fiscal Years (Dollars in Thousands)

| Retirement Change in Net Assets | Fiscal Year |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ADDITIONS | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Member Contributions | \$ 133,504 | \$ 135,275 | 142,356 | 377,436 | 403,661 | 570,933 | \$ 766,962 | 857,813 | 844,540 | \$ 808,908 |
| Employer Contributions Purchased | 77,196 | 131,234 | 138,100 | 297,770 | 318,311 | 477,472 | 663,544 | 759,482 | 754,044 | 763,099 |
| Service/Transfers | 39,535 | 50,832 | 93,552 | 113,944 | 141,932 | 125,751 | 107,548 | 95,226 | 72,436 | 73,973 |
| Net I nvestment Income (Loss) | $(1,449,643)$ | $(1,762,370)$ | 354,735 | 3,096,779 | 1,720,991 | 2,126,272 | 4,105,644 | $(1,963,259)$ | $(4,433,461)$ | 2,872,297 |
| Total Additions | $(1,199,408)$ | $(1,445,029)$ | 728,743 | 3,885,929 | 2,584,895 | 3,300,428 | 5,643,698 | $(250,738)$ | $(2,762,441)$ | 4,518,277 |
| DEDUCTIONS |  |  |  |  |  |  |  |  |  |  |
| Retirement Benefits | 809,133 | 924,172 | 1,067,481 | 1,238,966 | 1,406,547 | 1,538,992 | 1,650,818 | 1,768,219 | 1,888,931 | 2,031,119 |
| Survivor Benefits | 14,134 | 14,078 | 15,861 | 14,859 | 18,402 | 17,125 | 21,590 | 22,648 | 30,378 | 26,472 |
| Refunds due to Separation | 98,535 | 42,765 | 35,976 | 36,212 | 44,164 | 60,313 | 77,910 | 104,387 | 120,689 | 154,144 |
| Transfers Out | 10,157 | 8,617 | 7,457 | 2,336 | 4,581 | 5,129 | 10,117 | 177,176 | 5,706 | 11,455 |
| Administration and Other | 12,370 | 16,708 | 27,345 | 29,948 | 25,476 | 30,137 | 33,351 | 29,203 | 28,589 | 28,580 |
| Total Deductions | 944,329 | 1,006,340 | 1,154,120 | 1,322,321 | 1,499,170 | 1,651,696 | 1,793,786 | 2,101,633 | 2,074,293 | 2,251,770 |
| NET CHANGE | $(2,143,737)$ | $(2,451,369)$ | $(425,377)$ | 2,563,608 | 1,085,725 | 1,648,732 | 3,849,912 | $(2,352,371)$ | $(4,836,734)$ | 2,266,507 |
| Net assets beginning of year | 22,942,064 | 20,798,327 | 18,346,958 | 17,921,581 | 20,485,189 | 21,570,914 | 23,219,646 | 27,069,558 | 24,717,187 | 19,880,453 |
| NET ASSETS END OF YEAR | \$20,798,327 | \$18,346,958 | \$17,921,581 | \$20,485,189 | \$21,570,914 | \$23,219,646 | \$27,069,558 | \$24,717,187 | \$19,880,453 | \$22,146,960 |

Financial Trends: Changes in Net Assets
Last 10 Fiscal Years (Dollars in Thousands)

| HBS Change in <br> Net Assets | Fiscal Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ADDITIONS |  | 2001 |  | 2002 |  | 2003 |  | 2004 |  | 2005 |  | 2006 |  | 2007 |  | 2008 |  | 2009 |  | 2010 |
| Employer Contributions | \$ | 56,308 | \$ | 4,041 | \$ | 4,256 | \$ | 79,662 | \$ | 85,350 | \$ | 93,461 | \$ | 103,473 | \$ | 99,027 | \$ | 90,490 | \$ | 59,393 |
| Net Investment Income (Loss) |  | $(72,558)$ |  | 1,811 |  | 10,436 |  | 114,906 |  | 68,750 |  | 86,587 |  | 174,348 |  | $(87,559)$ |  | $(192,303)$ |  | 128,258 |
| Total Additions |  | $(16,250)$ |  | 5,852 |  | 14,692 |  | 194,568 |  | 154,100 |  | 180,048 |  | 277,821 |  | 11,468 |  | $(101,813)$ |  | 187,651 |
| DEDUCTIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Health Premium Benefits |  | 40,500 |  | 75,990 |  | 84,534 |  | 83,680 |  | 89,602 |  | 80,827 |  | 83,236 |  | 85,132 |  | 87,723 |  | 87,983 |
| Administration and Other |  | 80 |  | 47 |  | 899 |  | 946 |  | 909 |  | 1,112 |  | 1,378 |  | 1,303 |  | 1,257 |  | 1,266 |
| Total Deductions |  | 40,580 |  | 76,037 |  | 85,433 |  | 84,626 |  | 90,511 |  | 81,939 |  | 84,614 |  | 86,435 |  | 88,980 |  | 89,249 |
| NET CHANGE |  | $(56,830)$ |  | $(70,185)$ |  | $(70,741)$ |  | 109,942 |  | 63,589 |  | 98,109 |  | 193,207 |  | $(74,967)$ |  | $(190,793)$ |  | 98,402 |
| Net assets beginning of year |  | 895,862 |  | 839,032 |  | 768,847 |  | 698,106 |  | 808,048 |  | 871,637 |  | 969,746 |  | 1,162,953 |  | 1,087,986 |  | 897,193 |
| NET ASSETS END OF YEAR | \$ | 839,032 | \$ | 768,847 | \$ | 698,106 | \$ | 808,048 | \$ | 871,637 | \$ | 969,746 | \$ | 1,162,953 | \$ | 1,087,986 | \$ | 897,193 | \$ | 995,595 |
| LTD Change in Net Assets |  |  |  |  |  |  |  |  |  | Fiscal | Ye |  |  |  |  |  |  |  |  |  |
| ADDITIONS |  | 2001 |  | 2002 |  | 2003 |  | 2004 |  | 2005 |  | 2006 |  | 2007 |  | 2008 |  | 2009 |  | 2010 |
| Member Contributions | \$ | 29,938 | \$ | 32,938 | \$ | 34,801 | \$ | 36,026 | \$ | 38,982 | \$ | 41,188 | \$ | 44,518 | \$ | 47,171 | \$ | 47,213 | \$ | 35,939 |
| Employer Contributions |  | 29,938 |  | 32,938 |  | 34,800 |  | 36,026 |  | 38,982 |  | 41,188 |  | 44,518 |  | 47,171 |  | 47,213 |  | 35,939 |
| Net Investment Income (Loss) |  | $(6,492)$ |  | $(7,519)$ |  | 3,461 |  | 17,100 |  | 13,651 |  | 18,080 |  | 30,526 |  | $(21,623)$ |  | $(47,726)$ |  | 27,661 |
| Total Additions |  | 53,384 |  | 58,357 |  | 73,062 |  | 89,152 |  | 91,615 |  | 100,456 |  | 119,562 |  | 72,719 |  | 46,700 |  | 99,539 |
| DEDUCTIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Disability Benefits |  | 45,848 |  | 54,804 |  | 54,688 |  | 58,976 |  | 62,183 |  | 66,695 |  | 69,221 |  | 68,284 |  | 65,781 |  | 69,148 |
| Administration and Other |  | 2,033 |  | 2,732 |  | 2,177 |  | 2,515 |  | 2,460 |  | 2,593 |  | 2,857 |  | 2,750 |  | 3,282 |  | 2,820 |
| Total Deductions |  | 47,881 |  | 57,536 |  | 56,865 |  | 61,491 |  | 64,643 |  | 69,288 |  | 72,078 |  | 71,034 |  | 69,063 |  | 71,968 |
| NET CHANGE |  | 5,503 |  | 821 |  | 16,197 |  | 27,661 |  | 26,972 |  | 31,168 |  | 47,484 |  | 1,685 |  | $(22,363)$ |  | 27,571 |
| Net assets beginning of year |  | 87,680 |  | 93,183 |  | 94,004 |  | 110,201 |  | 137,862 |  | 164,834 |  | 196,002 |  | 243,486 |  | 245,171 |  | 222,808 |
| NET ASSETS END OF YEAR | \$ | 93,183 | \$ | 94,004 | \$ | 110,201 | \$ | 137,862 | \$ | 164,834 | \$ | 196,002 | \$ | 243,486 | \$ | 245,171 | \$ | 222,808 | \$ | 250,379 |

## Revenues: Actual Contribution Rates <br> Last 10 Fiscal Years

| Retirement Contribution Rates | Fiscal Years |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Member | 2.17 | 2.00 | 2.00 | 5.20 | 5.20 | 6.90 | 8.60 | 9.10 | 8.95 | 9.00 |
| Employer | 1.25 | 1.94 | 1.94 | 4.10 | 4.10 | 5.77 | 7.55 | 8.05 | 7.99 | 8.34 |


| HBS <br> Contribution Rates | Fiscal Years |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Employer | 0.92 | 0.06 | 0.06 | 1.10 | 1.10 | 1.13 | 1.05 | 1.05 | 0.96 | 0.66 |


| LTD <br> Contribution Rates | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | 0.49 | 0.49 | 0.49 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.40 |
| Member | 0.49 | 0.49 | 0.49 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.40 |

The above schedule does not include System retirees.
Source: Buck Consultants, LLC

## 2010 Comprehensive Annual Financial Report

## Operations: Members by Type of Benefit As of June 30, 2010

$\left.\begin{array}{|lrrrrrrr}\hline \begin{array}{c}\text { Retirement } \\ \text { Monthly Benefit** }\end{array} & & 1 & 2 & 3 & 4 & 5 & 6 \\ \hline & \text { Options* }\end{array}\right]$

* OPTIONS KEY

1. Life Annuity
2. Life Annuity - survivor benefits guaranteed 5 years
3. Life Annuity - survivor benefits guaranteed 10 years
4. Life Annuity - survivor benefits guaranteed 15 years
5. Joint Annuity - 100 percent to contingent and survivor
6. Joint Annuity - $662 / 3$ percent to contingent and survivor
7. Joint Annuity - 50 percent to contingent survivor

The above schedule does not include System retirees.
** Most recent information available is 2009.
Source: Buck Consultants, LLC

| HBS Monthly Benefits | Members |
| :--- | ---: |
| $\$ 1-199$ | 56,377 |
| $\$ 200-299$ | 3,026 |
| $\$ 300-399$ | 75 |
| $\$ 400 \&$ Over | 51 |
| Total | $\mathbf{5 9 , 5 2 9}$ |

Source: ASRS Pension Administration System

| LTD MONTHLY BENEFIT | MEMBERS |
| :--- | ---: |
| $\$ 1-299$ | 19 |
| $\$ 300-499$ | 43 |
| $\$ 500-999$ | 474 |
| $\$ 1,000-1,499$ | 1,235 |
| $\$ 1,500-1,999$ | 1,234 |
| $\$ 2,000 \&$ over | 1,790 |
| TOTAL | $\mathbf{4 , 7 9 5}$ |

[^15]
## Operations: Average Benefit Payments Last 10 Fiscal Years

| Retirement | Years of Credited Service |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45+ |
| FISCAL YEAR 2000 |  |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$ 125 | \$ 278 | \$ 550 | \$ 872 | \$1,328 | \$2,013 | \$2,541 | \$2,732 | \$2,339 | \$2,011 |
| Number of Retirees | 1,321 | 9,454 | 12,076 | 10,061 | 9,944 | 9,169 | 4,683 | 1,106 | 207 | 17 |
| FISCAL YEAR 2001 |  |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$ 130 | \$ 293 | \$ 600 | \$ 939 | \$1,414 | \$2,119 | \$2,694 | \$2,956 | \$2,694 | \$2,671 |
| Number of Retirees | 1,338 | 9,450 | 12,164 | 10,033 | 10,115 | 9,611 | 4,891 | 1,120 | 180 | 18 |
| FISCAL YEAR 2002 |  |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$ 142 | \$ 317 | \$ 664 | \$1,042 | \$1,578 | \$2,368 | \$2,990 | \$3,286 | \$3,195 | \$3,958 |
| Number of Retirees | 1,397 | 9,357 | 12,188 | 10,145 | 10,443 | 10,023 | 5,399 | 1,193 | 182 | 19 |
| 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 |

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

* Most recent information available.

Source: Buck Consultants, LLC

## 2010 Comprehensive Annual Financial Report

## Operations: Average Benefit Payments Last 10 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 |

Note: Information prior to 2006 is not available.
Source: ASRS Pension Administration System

| LTD |  |
| :--- | ---: |
| FI SCAL YEAR 2006 |  |
| Average Monthly Benefit | $\$ 1,689$ |
| Number of LTD Participants | 4,968 |
| FI SCAL YEAR 2007 |  |
| Average Monthly Benefit | $\$ 1,743$ |
| Number of LTD Participants | 4,976 |
| FI SCAL YEAR 2008 |  |
| Average Monthly Benefit | $\$ 1,823$ |
| Number of LTD Participants | 4,957 |
| FI SCAL YEAR 2009 |  |
| Average Monthly Benefit | $\$ 1,886$ |
| Number of LTD Participants | 4,672 |
| FI SCAL YEAR 2010 |  |
| Average Monthly Benefit | $\$ 1,966$ |
| Number of LTD Participants | 4,797 |

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

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

| Participating Employer | 2010 |  |  | 2001 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | COVERED EMPLOYEES | RANK | \% OF MEMBERSHI P | COVERED EMPLOYEES | RANK | \% OF MEMBERSHIP |
| Dept Of Administration | 27,938 | 1 | 13\% | 30,560 | 1 | 16\% |
| Maricopa County | 8,910 | 2 | 4\% | 9,448 | 3 | 5\% |
| Mesa Unified Dist 4 | 8,292 | 3 | 4\% | 7,717 | 5 | 4\% |
| Tucson Unified Dist 1 | 7,337 | 4 | 3\% | 7,818 | 4 | 4\% |
| University Of Arizona | 7,053 | 5 | 3\% | 7,150 | 6 | 4\% |
| Maricopa County Community College District | 6,387 | 6 | 3\% | 3,900 | 9 | 2\% |
| Pima County | 5,736 | 7 | 3\% | 6,407 | 7 | 3\% |
| Arizona State University | 5,509 | 8 | 2\% | 4,659 | 8 | 2\% |
| Gilbert Unified Dist 41 | 4,741 | 9 | 2\% |  |  |  |
| Chandler Unified Dist 80 | 3,969 | 10 | 2\% |  |  |  |
| Maricopa County School Office |  |  |  | 13,769 | 2 | 7\% |
| Maricopa County Health Services |  |  |  | 3,565 | 10 | 2\% |
| *All other | 134,470 |  | 61\% | 96,785 |  | 51\% |
| Total | 220,342 |  | 100\% | 191,778 |  | 100\% |


| TYPE | NUMBER | EMPLOYEES |
| :---: | :---: | :---: |
| Public Schools | 239 | 90,548 |
| Charter Schools | 156 | 4,685 |
| Cities | 78 | 18,186 |
| Counties | 13 | 8,333 |
| Higher Education | 10 | 5,649 |
| Other | 93 | 7,069 |
| Total | 589 | 134,470 |

Note: All participating employers participate in the retirement, HBS and LTD Plans.
Source: ASRS Pension Administration System


[^0]:    Additional information is available upon request. Please direct your request to the:

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

[^1]:    * NR represents those securities that are not rated.
    ** Total of $\$ 5,525,087$ represents the total corporate bonds of $\$ 2,146,826$ and total government bonds of $\$ 3,378,261$ as denoted on the Basic Financial Statements.

[^2]:    * Information not available prior to 2005

[^3]:    * 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.

[^4]:    * NOTE: Return on Private Equity Investments has not been included in Total Fund Performance for FY 2008 or 2009.

[^5]:    * Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 or 2009.

[^6]:    Note: A detailed listing of investments is available upon request. Direct inquires to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

[^7]:    Note: A detailed listing of investments is available upon request. Direct inquires to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

[^8]:    Note: A detailed listing of investments is available upon request. Direct inquires to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

[^9]:    Note: A detailed listing of broker commissions is available upon request. Direct inquires to: ASRS, 3300 North Central Avenue, Phoenix,

[^10]:    ${ }^{1}$ New assumption as of June 30, 2009

[^11]:    *Total salary increase rate $=$ inflation (or growth) rate (3.75\%) + productivity increase rate ( $0.75 \%$ ) + merit component

[^12]:    ** The $7.75 \%$ rate was determined in the 2004 valuation and would have applied to the 2006/20007 biennium. The Legislature adopted a stair-step approach to increasing contribution rates and set the rate at 6.9\% for fiscal year 2006 and $8.6 \%$ for fiscal year 2007.

[^13]:    * Gain/Loss includes assumption and plan changes

[^14]:    * Combination plans that include Medicare eligible and non-Medicare eligible retiree and dependent coverage require a $\$ 400$ monthly out of pocket payment.

[^15]:    Source: Sedgwick CMS

