2009

Comprehensive Annual Financial Report
for Fiscal Year Ended June 30, 2009


SYSTEM

## DELIVERING SERVICE WITH... <br> 

## OUR VISION

 OUR VALUESFor the benefil 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.

## Protessionalism.

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

Results.
A results-oriented approach to opera. tions 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 or 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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# Certificate of Achievement for Excellence in Financial Reporting 

## Certificate of Achievement for Excellence in Financial Reporting

Presented to

## The Arizona State Retirement System

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended
June 30, 2008
A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.


President


Executive Director

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, 2008. This was the 20th consecutive year that the

Arizona State Retirement System has achieved this prestigious award.

# Public Pension Standards Award for Plan Funding and Administration 



The National Association of State Retirement Administrators (NASRA), National Conference on Public Employee Retirement Systems (NCPERS), and the National Council on Teacher Retirement (NCTR) awarded a Public Pension Standards Award to the Arizona State Retirement System for plan design and administration as set forth in the Public Pension Standards for 2009. 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. Changes to the standards for 200 - the Standards have been separated into the Administrative Standards and the Funding Standard. A system may qualify for and receive a Recognition Certificate for either the Administrative or Funding Standard, or both. A system that qualifies for both certificates will be awarded the Public Pension Coordinating Council Standards Award. The ASRS qualified for both Standard Awards. This is the 5th consecutive year that the Arizona State Retirement System has received this prestigious award.

# Letter from the Chairman 



## Arizona State Retirement System

December 4, 2009
The Honorable Jan Brewer
Governor of Arizona
State Capitol
1700 W. Washington St.
Phoenix, Arizona 85007
Dear Governor Brewer:
On behalf of the Arizona State Retirement System (ASRS) Board of Trustees, I present you with the fifty-sixth Comprehensive Annual Financial Report of the Arizona State Retirement System. This report provides an indepth 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, 2009. The report also includes 10-year summaries of a variety of indicators that affect or reflect the ASRS operations.

The actuarial valuation performed by Buck Consultants LLC., is as of June 30, 2008 and indicates that the ASRS total plan achieved an actuarial funded status of 82.2 percent, down from 82.8 percent the previous year. The 2008 market value funded status for retirement plan assets of 74.7 percent reflects a decrease from the prior year. The 2007 market value funded status was 86.4.

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 2009-2010 is 9.40 percent for both the employer and employee, which includes 9.00 percent for the defined benefit pension plan and health insurance supplement and 0.40 percent for the long term disability plan.

Although this annual financial report covers the fiscal year ended June 30, 2009, it is important to note that the investment markets have experienced positive returns since June 30, 2009 which will be accounted for in next year's annual report. Such market volatility makes it difficult to predict future contribution rates.

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

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## Letter from the Chairman

The ASRS continues to be engaged in program and policy review and, when appropriate, will be seeking legislative 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 several years.

The ASRS has also continued its effort to improve member services, including automation of many services, improved website services and an advanced imaging system of records. These improvements have led, not only to increased member satisfaction as measured by regular surveys, but to cost savings and avoidances as well.

During fiscal year 2009, we completed the final stages of an ambitious information technology improvement program that will continue to pay dividends for the near- and long-term.

The ASRS 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 a record 556,000 as of June 30, 2009. Also during that fiscal year, nearly 104,000 retirees, survivors and disabled members received in excess of $\$ 2.0$ 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 



## Arizona State Retirement System

3300 North Central Avenue • PO Box 33910 • Phoenix, AZ 85067-3910 • Phone (602) 240-2000

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December 4, 2009
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-sixth Comprehensive Annual Financial Report (CAFR) of the Arizona State Retirement System (ASRS), a component unit of the State of Arizona, for the fiscal year ended June 30, 2009.

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, 2009. 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, 2009, total ASRS membership, including active, inactive, disabled and retired members is 556,016. There are 708 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 2008-09, more than 104,000 retired annuitants, their survivors, and disabled members received in excess of $\$ 2$ billion in benefits. As of June 30, 2009 there were 39,371 retired members and their families enrolled in the ASRS-sponsored medical program and 33,957 retired members and their families enrolled in dental plans through the ASRS.

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

## Major Initiatives for Fiscal Year 2008-09

## I nvestments:

- Selected an external vendor to consolidate the back-office and performance reporting functions for ASRS private market investments.
- Funded five (5) opportunistic fixed income mandates with an approximate aggregate total of $\$ 350$ million designed to tactically take advantage of available market dislocation opportunities.
- Selected New England Pension Consultants (NEPC) as ASRS general investment consultant and modified the roster of investment consultants contracted to provide investment due diligence, research and supplement ASRS investment staff functions.


## Benefits:

- Implemented a process whereby Long Term Disability (LTD) recipients began receiving their first retirement check within 10 days of their retirement date. Previously LTD members waited as long as 90 days to receive their first benefit check.
- Launched a new 8-page newsletter mailed to ASRS retirees and LTD members. This quarterly newsletter provides information related to health benefits and other topics of interest to our almost 100,000 retirees.


## Letter of Transmittal from the Director

- Successfully completed within budget a complicated, multi-year pension administration IT project. This project transformed manual paper-driven processes to an on-line automated system. The result is significant improvements in service delivery to our members and reduced future administrative costs. This project was completed under budget.


## Administration

- Completed a re-design of the agency website which included upgrading security measures and implementing a new, streamlined design in compliance with state Government Information Technology Agency standards.
- Implemented the MAC (Member Advisory Center) Express Service Center. Members can now receive "on the spot" help from a Benefit Advisor in the ASRS reception area when they need assistance completing retirement applications, service purchase, forfeiture or other ASRS forms.


## Investment Policies

An integral part of the overall investment policy is the strategic asset allocation policy, which is designed to optimize returns while minimizing risk. The ASRS maintains its investment assets in accordance with Board approved strategic asset allocation policy. Investment assets are managed in 92 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.

After deducting investment expenses, the ASRS achieved the following one, three, five, ten year and inception net rates of return for periods ended June 30, 2009:

## Annualized Rates of Return

(Retirement © Health Benefit Supplement)

|  | 1 Year | $\mathbf{3 Y e a r}$ | $\mathbf{5}$ Year | $\mathbf{1 0}$ Year | Inception <br> (June 30, 1975) |
| :--- | :--- | :---: | :---: | :---: | :---: |
| ASRS Total Fund* | $-18.1 \%$ | $-3.8 \%$ | $1.2 \%$ | $1.9 \%$ | $9.5 \%$ |

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

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## Letter of Transmittal from the Director

## 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 30,2008 , the actuarial value of total plan assets (defined benefit and health insurance) was $\$ 27.9$ billion and the actuarial accrued liability was $\$ 33.9$ billion. The unfunded actuarial accrued liability of $\$ 6.0$ billion results in an actuarial funding ratio of 82.2 percent for the total plan. The change in funding percentage from last year's 82.8 percent is primarily due to continued recognition of lower investment returns for fiscal years 2002 and 2003 as well as to the investment loss of fiscal 2008.

The actuarial funding ratios for the individual components of the total plan as of June 30, 2008 and the projected actuarial funding ratios for the period ending June 30, 2009 for the individual components of the total plan are as follows:

Funded Status as of June 30

|  | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 0 9}$ |
| :--- | :---: | :---: | :---: | :---: |
| Based on: | Actuarial Value | Actuarial Value | Market Value | Market Value |
| Plan Retirement | $82.1 \%$ | $79.1 \%$ | $74.7 \%$ | $56.5 \%$ |
| System | $102.2 \%$ | $77.4 \%$ | $102.2 \%$ | $77.4 \%$ |
| Plan Health Supplements | $85.7 \%$ | $83.4 \%$ | $75.2 \%$ | $58.3 \%$ |
| LTD Program | $49.7 \%$ | $52.2 \%$ | $44.3 \%$ | $36.6 \%$ |

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 Initiatives

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 $\$ 216$ million per year, which is equivalent to $\$ 2.5$ billion in liability savings for the group of all current employees, or approximately $\$ 5.2$ 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 2.24 percent in total each year.

# Letter of Transmittal from the Director 

## Estimated Impact of ASRS Cost Reduction Initiatives as of June 30, 2008, Valuation Date <br> Amounts in Millions of Dollars

| Action | Reduction in Total <br> Contribution Rate | Annual Reduction in <br> Total Contribution <br> Amount | Present Value of Savings on <br> Actuarial Valuation Basis |
| :--- | :---: | :---: | :---: | :---: |
| Cost Savings Initiatives Contained in Current Valuation |  |  |  |
| Change basis for service purchases from normal <br> cost to actuarial present value <br> Decrease interest credited on withdrawn <br> contributions from 8\% to 4\% <br> Correction of Permanent Benefit Increase reserve | $0.60 \%$ | $\$ 58.30$ | $\$ 525.30$ |
| Sub-total, savings in current valuation | $0.27 \%$ | $\$ 25.25$ | $\$ 261.50$ |

Cost Savings Initiatives Contained in Future Valuation \& Reflected in Lower Future Contribution

| Increase interest rate on payroll deduction <br> agreements from 0\% to 8\% | $0.15 \%$ | $\$ 14.60$ | $\$ 191.71$ |
| :--- | :---: | :---: | :---: |
| Pop-up restrictions | $0.38 \%$ | $\$ 36.90$ | $\$ 484.52$ |
| Reimbursements for early retirement incentives | $0.17 \%$ | $\$ 16.10$ | $\$ 211.40$ |
| Rescinding modified Deferred Retirement <br> Option Plan <br> Long Term Disability program design changes <br> Long Term Disability -- changes to offsets <br> and pre-existing condition period <br> Recapture of unclaimed monies | $0.46 \%$ | $\$ 44.90$ | $\$ 589.57$ |
| Sub-total, savings in future valuation | $0.02 \%$ | $\$ 2.20$ | $\$ 28.89$ |
| $\mathbf{1 . 3 3 \%}$ | $0.14 \%$ | $\$ 13.70$ | $\$ 157.00$ |
| GRAND TOTAL | $\mathbf{2 . 2 4 \%} \%$ | $\$ 0.62$ | $\mathbf{\$ 1 2 9 . 0 2}$ |
| $\mathbf{\$ 2 1 6 . 0 7}$ | $\mathbf{\$ 2 , 5 0 3}$ | $\mathbf{5 0 3 . 9 9}$ |  |

## Budget Savings

The ASRS planned and implemented strategies to reduce our agency expenditures for FY 2009. As a result, the ASRS realized significant reductions to the operating budget totaling $\$ 1,585,700$ (equivalent to $6.6 \%$ of the FY 2009 Appropriations). In addition, the ASRS was able to return to the ASRS Trust Fund $\$ 446,000$ (equivalent to $1.8 \%$ of the FY 2009 Appropriations) from funds appropriated in prior fiscal years. In total, the ASRS was able to return to the ASRS Trust Fund \$2,031,700 (equivalent to 8.4\% of the FY 2009 Appropriations) at the conclusion of FY 2009.

## Letter of Transmittal from the Director

## World Markets

World markets have experienced wide fluctuations in the last two years. As a result, although the ASRS funds are a well-diversified and professionally managed portfolio of investments, they incurred significant losses in June 30, 2008 and June 30, 2009. These losses will have the effect of reducing the actuarial value and market value funded status of the funds. In addition, the combined pension and health benefit supplement contributimon rate will increase for future years beginning July 1, 2010.

## 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, 2008. The ASRS has received this prestigious award in each of the last 20 years.

To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR that satisfies both accounting principles generally accepted in the United States of America and applicable legal requirements. A Certificate of Achievement is valid 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 2009 to the ASRS for meeting professional standards and plan design and administration. To be awarded the 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 fifth year the ASRS has received this award.

## Acknowledgements

This report represents the culmination of hours of hard work by the ASRS General Accounting, Investments and External Affairs staff. It is intended to provide complete and reliable information for decision making, to insure 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<br>Buck Consultants, $L L C$<br>Phoenix, AZ<br>\section*{LONG TERM DISABILITY BENEFITS}<br>Sedgwick CMS Company<br>Calabasas, CA<br>\section*{CUSTODIAL BANK}<br>BNY Mellon<br>Pittsburgh, PA<br>\section*{INDEPENDENT AUDITORS}<br>Heinfeld, Meech E Co., P.C.<br>Tucson, AZ<br>\title{ GENERAL INVESTMENT CONSULTANT }<br>NEPC, LLC<br>Cambridge, MA<br>PRIVATE REAL ESTATE CONSULTANT<br>The Townsend Group<br>Cleveland, OH<br>\section*{PRIVATE EQUITY CONSULTANT}<br>Ennis Knupp + Associate<br>Chicago, IL<br>\section*{INVESTMENT MANAGERS}<br>Investment managers are listed in the "Schedule of Broker Commissions" see page 78

## Summary of 2009 Retirement Legislation

The 49th Legislature, First Regular Session adjourned July 1, 2009. Below is a brief summary of bills that have been passed into law than may affect ASRS members and employers. To view legislation in its entirety, visit the Arizona State Legislature's website at www.azleg.gov. All bills listed below are effective on the general effective date (September 30, 2009) unless otherwise noted.

## House Bill 2118 - ASRS; LTD Amendments

(Laws 2009, Chapter 36)
Signed by the Governor on July 10, 2009, this bill:

## PLAN DESIGN

- Eliminates the $80 \%$ cap on monthly benefits.


## SERVICE PURCHASE

- Requires, beginning July 1, 2010, a member to have five years of service credit in ASRS before initiating a service purchase.
- Allows a member to purchase time worked for the government of a US commonwealth, insular area or overseas possession.
- Repeals Laws 2007, chapter 244, section 2 which provided for a sunset of the military call-up disability service purchase, and extends the purchase provisions indefinitely.


## RETURNTO WORK

- Permits a member who returns to work with a suspension of benefits to choose a different annuity option from their first retirement if the member resumed work for at least 60 consecutive months.
- Allows a retiree to immediately return to work in a non-ASRS position (i.e., not suspend retirement benefits) if the retiree returns to work in a position that is:

1. a true change from their pre-retirement position,
2. does not require participation in ASRS, and
3. either:
a. requires participation in another retirement plan and the member makes those contributions (or if EORP, waives coverage) or
b. permits the member to contribute to another plan and the member actually does participate.

- Requires an election to continue receiving benefits while working to be irrevocable for the


## Summary of 2009 Retirement Legislation

remainder of employment.

- Eliminates the requirement that a returning teacher must be working as a certificated teacher.
- Requires a member to submit an application for re-retirement after terminating RTW employment.
- Requires a retiree who RTW without a resumption of membership to acknowledge the provisions of the RTW program in writing and file it with the ER within 30 days.


## ADMINISTRATION

- Exempts ASRS employees from State Personnel Management and Personnel Board provisions and the State classification and compensation statute.


## EMPLOYER ADMINISTRATION

- Limits exceptions to "employer termination incentive program" (ERTIP) definition to increases due to promotion only by eliminating reclassifications and merit or cost of living increases.
- Removes the requirement that in order to qualify as an ERTIP an agreement to terminate must be in writing and instead broadens to include anything of value provided by an employer that are conditioned on the member's termination.
- Clarifies that enhanced payments of vacation, sick, or compensatory leave will count as incentive payments.
- Requires an employer that employs and makes contributions for a person who works for a third-party organization (and doesn't 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

- Permits contributions from a second employer only if membership criteria (20/20) is met for that employer beginning January 1, 2010, unless:

1. the employee had been employed by the second employer between January 1, 2005 and December 31, 2009,
2. the employee continues or resumes employment for the same employer before January 1, 2012, and
3. the employee does not leave the second employment for more than 30 consecutive days during the employee's service year.

## Summary of 2009 Retirement Legislation

- Clarifies that compensation from a second employer for which contributions are not made is not counted towards a member's retirement benefit.


## LONG TERM DISABILITY PROGRAM

- Cross-references the LTD Program definitions with the ASRS Defined Benefit (DB) Plan statutes to ensure conformity between the programs.
- Clarifies the LTD contribution rate calculation statute to provide consistency between the DB Plan and LTD Program rates.
- Clarifies LTD Program offset statute to ASRS practice, custom, and legally upheld interpretation to include amounts paid to the member and the member's dependents (members continue to challenge our interpretation of the current word "or").
- Clarifies the use of the word "benefit" throughout the statute.


## CHARTER CITYTRANSFERS

- Clarifies that when employee of a charter city who later becomes an ASRS member elects to have the employee's service transferred, the service is not credited in the new retirement system until full payment is made for the service credit.
- Clarifies that once a transfer is completed, the member's rights in the former retirement system are terminated.


## RETIREE ACCUMULATED SICK LEAVE (RASL) PROGAM <br> (Department of Administration)

- Requires an employee, in order to be eligible for a RASL payment from ADOA, to:

1. Establish an effective retirement date that is within 31 days after termination of employment.
2. Elect defined retirement benefits within 31 days after termination of employment.
3. Have non-forfeited sick leave time available for use at the time of termination.

- Enables an employee or officer to receive a RASL payment in a lump sum.


## MISCELLANEOUS, TECHNICAL and FEDERAL CONFORMING CHANGES

- Clarifies that non-retired survivor benefits are triggered by a member's death regardless of whether the member was employed at the time of death.
- Eliminates extraneous statutory language relating to the Rural Health Insurance Subsidy that expires on June 30, 2009.
- Makes other technical and conforming changes.


# Summary of 2009 Retirement Legislation 

## Senate Bill 1196 - NOW: Education Omnibus (Laws 2009, Chapter 95)

Signed by the Governor July 10, 2009, this bill:

- Allows ASRS to establish a supplemental employee deferral plan (403(b) or 457) ("Plan") for public employees, other than State employees, to save additional tax-deferred money for retirement.
- Allows ASRS to:

1. Employ services for the operation and administration of the Plan.
2. Administer the Plan through contracts with multiple vendors.
3. Perform all acts necessary and proper for the operation and protection of the Plan.
4. Enter into intergovernmental agreements.

- Clarifies that the Plan is in addition to the DB Plan provided by ASRS.
- Allows any employee of a participating employer to join the Plan.
- Provides that employee participation allows the employer to make payroll deductions.
- Requires the employer to submit reports required by the Plan.
- Clarifies that compensation deferred under the Plan is compensation for the purposes of retirement benefits.
- States that employee contributions and earnings are immediately vested; employer contributions are vested according to the Plan.
- Provides an immunity clause for the State, the Board, and the ASRS.
Introductory Section

2 OO9 Comprebensive Annual Financial Report


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# I ndependent Auditors' Report 

## INDEPENDENT AUDITORS' REPORT

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, 2009, 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, 2008, 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, 2009, 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.

In accordance with Government Auditing Standards, we have also issued our report dated November 25, 2009, 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.

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## Independent Auditors' Report

The Management's Discussion and Analysis on pages 24 through 29 and the Schedule of Funding Progress and Schedule of Employer Contributions on page 50 are not a required part of the basic financial statements but are supplementary information required by accounting principles generally accepted in the United States of America. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the required supplementary information. However, we did not audit the information and express no opinion on it.

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise ASRS's basic financial statements. 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 basic financial statements. The Additional Supplementary Information, as listed in the table of contents under the Financial Section, has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, are fairly stated in all material respects in relation to the basic financial statements taken 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 express no opinion on them.
Heimfeld, Mech \& Co. P.C.

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

November 25, 2009

# 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, 2009. It is presented as a narrative overview and analysis. The discussion and analysis should be read in conjunction with the Letter of Transmittal included in the Introductory Section of the ASRS' Comprehensive Annual Financial Report (CAFR), and the basic financial statements and notes to the basic financial statements presented in the Financial Section of the CAFR.

## Financial Highlights

During FY 2009, ASRS assets decreased primarily as the result of negative conditions in the domestic and international equity markets. The economy was negatively impacted by a drop in consumer spending, rising unemployment, falling industrial production, the impact of sub-prime exposure on financial institutions and the ongoing housing recession As a result, over this period the ASRS' investments substantially under-performed the assumed 8 percent actuarial investment rate of return.

- The ASRS rate of return on investments for FY 2009 was -18.1 percent compared to -7.6 percent for FY 2008. (NOTE: Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 and 2009. There is no material effect on the ASRS funds). The decrease in the rate of return reflects the negative conditions in the global securities markets during the fiscal year.
- The ASRS combined total net assets held in trust for pension benefits decreased by 19.4 percent at FYE June 30, 2009 compared to FYE 2008. The decrease in the combined total net assets is primarily due to negative returns in the global securities markets during the fiscal year. This decrease is also due to payment of benefits to members and other deductions.
- The ASRS paid $\$ 2.1$ billion in pension, disability, health insurance and survivor benefits during FY 2009 compared to $\$ 1.9$ billion in FY 2008. The 6.6 percent increase is due to an increase in retirements.
- As of June 30, 2008, the most recent actuarial valuation, the Retirement and Health Benefit Supplement Funds combined were 82.2 percent funded. This compares to a combined funding ratio of 82.8 percent as of June 30, 2007. 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 loss of fiscal 2008.


## 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, 2009. 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, 2009, 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, 2009 with combined total comparative information as of June 30, 2008. 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, 2009 with comparative information for the year ended June 30, 2008. This statement reflects the changes in resources available to pay benefits to retirees and other beneficiaries for year.

2) Notes to the Basic Financial Statements. 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 32-49 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 by manager and expenses. The ASRS Plan, a defined benefit plan, and the System, a defined contribution plan, 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, 2009 were $\$ 21.0$ billion, a 19.4 percent decrease from $\$ 26.1$ billion at June 30, 2008. The decrease in net assets is primarily due to negative returns in the global securities markets during the fiscal year. The retirement fund net assets were $\$ 19.9$ billion compared to $\$ 24.7$ billion last year, a 19.6 percent decrease. The HBS fund net assets were $\$ 897.2$ million at year end compared to $\$ 1.1$ billion at FYE 2008, a 17.5 percent decrease. The LTD fund net assets were $\$ 222.8$ million at year end compared to $\$ 245.2$ million last year, a 9.1 percent decrease.
Net investments totaled $\$ 21.0$ billion at FYE 2009 compared to $\$ 26.0$ billion at FYE 2008. The 19.4 percent decrease was primarily due to negative returns in the global securities markets. Cash, receivables and prepaids of $\$ 925.3$ million reflects a 58.0 percent decrease compared to last year's $\$ 2.2$ billion and is primarily due to a decrease in cash, securities sold and forward contracts receivables. Liabilities of $\$ 4.6$ billion represents a decrease of 31.6 percent compared to $\$ 6.7$ billion last year. This is primarily due to a decrease in securities purchased and forward contracts payable.

Changes in Net Assets. For the 2009 fiscal year, employer and member contributions totaled $\$ 1.78$ billion, a 1.5 percent decrease over the 2008 fiscal year contributions of $\$ 1.8$ billion. This decrease is due to a decrease in the contribution rate from 9.1 percent in FY 2008 to 8.95 percent in FY 2009.

## Management's Discussion and Analysis

For FY 2009, the ASRS recognized net investment losses of $\$ 4.7$ billion which compares to net investment loss of $\$ 2.1$ billion in the previous year. This 124 percent decrease is due to negative 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 2009 fiscal year, pension, disability, health insurance and survivor benefits totaled $\$ 2.1$ billion, an increase of 6.6 percent over the $\$ 1.9$ billion paid during FY 2008. Pension payments totaled $\$ 1.9$ billion in FY 2009 compared to $\$ 1.8$ billion in the previous year. The 6.8 percent increase is explained by an increase in retirees of 7 percent. Refunds and transfers to
other plans totaled $\$ 126.4$ million dollars in 2009, a 55.1 percent decrease from the $\$ 281.6$ million paid out in 2008. The decrease was due to a group of employees who were transferred by joinder agreement to another public employee retirement system in 2008. For FY 2009, the cost of administering the ASRS benefits totaled $\$ 31.4$ million, a decrease of 5.5 percent from the $\$ 33.2$ million paid in FY 2008. This decrease is primarily a result of a reduction in programming costs related to completion of IT projects, as well as reductions in salaries and actuary consulting expenses. The following tables show the principal ASRS net assets and changes in net assets for fiscal years 2009 and 2008, in thousands of dollars:

## Net Assets - ASRS

| ASSETS | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ |  | Change | \% Change |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Cash, receivables and prepaids | $\$$ | 925,271 | $\$$ | $2,202,266$ | $\$(1,276,995)$ |
| Investments at fair value | $21,219,032$ | $26,734,049$ | $(5,515,017)$ | $-58.0 \%$ |  |
| Security lending | $3,422,623$ | $3,794,246$ | $(371,623)$ | $-9.8 \%$ |  |
| Total assets | $25,566,926$ | $32,730,561$ | $(7,163,635)$ | $-21.9 \%$ |  |

## LIABILITIES

| Payables for investments | $1,143,849$ | $2,885,971$ | $(1,742,122)$ | $-60.4 \%$ |
| :--- | ---: | ---: | ---: | ---: |
| Securities Lending | $3,422,623$ | $3,794,246$ | $(371,623)$ | $-9.8 \%$ |
| Total Liabilities | $4,566,472$ | $6,680,217$ | $(2,113,745)$ | $-31.6 \%$ |
|  |  |  |  |  |
| TOTAL NET ASSETS | $\mathbf{\$ 2 1 , 0 0 0 , 4 5 4}$ | $\mathbf{\$ 2 6 , 0 5 0 , 3 4 4}$ | $\mathbf{\$ ( 5 , 0 4 9 , 8 9 0})$ | $\mathbf{- 1 9 . 4 \%}$ |

## Management's Discussion and Analysis

## Change in Net Assets - ASRS

|  | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ | Change | \% Change |
| :--- | ---: | ---: | ---: | ---: |
| ADDITIONS (REDUCTIONS) |  |  |  |  |
| Employee contributions | $\$ 891,753$ | $\$ 904,984$ | $\$(13,231)$ | $-1.5 \%$ |
| Employer contributions | 891,747 | 905,680 | $(13,933)$ | $-1.5 \%$ |
| Service credit purchase and transfers in | 72,436 | 95,226 | $(22,790)$ | $-23.9 \%$ |
| Investment and security lending income (loss) | $(4,542,158)$ | $(1,854,805)$ | $(2,687,353)$ | $-144.9 \%$ |
| Investment and security lending expense | $(131,332)$ | $(217,636)$ | 86,304 | $39.7 \%$ |
| Total additions (reductions) | $(2,817,554)$ | $(166,551)$ | $(2,651,003)$ | $-1591.7 \%$ |
| DEDUCTIONS |  |  |  |  |
| Benefits |  |  |  | 120,800 |
| Survivor benefits | $2,042,435$ | $1,921,635$ | 7,730 | $34.1 \%$ |
| Refunds and transfers | 30,378 | 22,648 | $(155,168)$ | $-55.1 \%$ |
| Administration and other | 126,395 | 281,563 | $(128)$ | $-0.4 \%$ |
| Total deductions | 33,128 | 33,256 | $(26,766)$ | $-1.2 \%$ |
|  | $2,232,336$ | $2,259,102$ |  |  |
| NET CHANGE | $(5,049,890)$ | $(2,425,653)$ | $(2,624,237)$ | $-108.2 \%$ |
| Net assets beginning of year |  |  |  |  |
| Net assets end of year | $26,050,344$ | $28,475,997$ | $(2,425,653)$ | $-8.5 \%$ |

Net Assets by Fund - June 30, 2009
Retirement, \$19,880,453


# 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, 2008.

- At June 30, 2008 the total funded status of the ASRS retirement and health benefit supplement funds decreased to 82.2 percent from 82.8 percent at FYE 2007. At FYE 2008 ASRS actuarial liabilities exceeded actuarial assets for the retirement and health benefit supplement funds by $\$ 6.0$ billion. This compares to an excess of actuarial liabilities over actuarial assets of $\$ 5.5$ billion at FYE 2007. This decrease in funded status is related primarily to recognition of investment losses in fiscal years 2002 and 2003 and the investment loss of fiscal 2008.

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 monthly using the same methodology. The LTD investments are held in a separate fund.
At June 30, 2009, the ASRS held net investments of $\$ 21.0$ billion, a decrease of $\$ 5.0$ billion from FY 2008. The decrease in total investments is primarily due to negative conditions in the global securities markets. The combined investment portfolio experienced a return of -18.1 percent (NOTE: Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 and 2009) compared to the Interim Total Fund Benchmark return of -18.4 percent. The ASRS outperformance is largely related
to international equity and GTAA selections, fixed income overweight, and offset by the real estate J-Curve effect and investment in REITS.

At June 30, 2009, the ASRS held $\$ 10.7$ billion in domestic equities and $\$ 2.9$ billion in international equities, a decrease of 18.3 percent in domestic equities and a 34.8 percent decrease in international equities from FYE 2008. Market performance accounts for the changes in values. The FY 2009 rate of return for ASRS domestic equities was -25.3 percent compared to -12.6 percent in FY 2008 reflecting negative conditions in the domestic equity markets. The ASRS domestic equities benchmark, comprised of a custom combination of S\&P 400, S\&P 500 and the S\&P 600, had a return of - 26.2 percent for FY 2009.
The FY 2009 rate of return for ASRS international equities was -28.3 percent compared to -10.9 percent in FY 2008, reflecting negative conditions in the international equity markets. The ASRS international equities benchmark, MSCI ACWI EX-US, had a rate of return of - 30.5 percent for FY 2009. The benchmarks for both domestic and international equities are representative of the returns that could be expected in a similar investing environment. The ASRS outperformed in international equities largely as a result of the stock selections of its external portfolio managers.

At June 30, 2009, the ASRS held $\$ 5.4$ billion in domestic fixed income securities, a decrease of $\$ 1.4$ million from FY 2008. Market performance accounts for the change in values. The rate of return was 6.1 percent compared to 6.6 percent in the previous year, reflecting a decrease in performance in the fixed income markets. The ASRS domestic fixed income benchmark, the BC Aggregate, had a rate of return of 6.1 percent for FY 2009. This benchmark is representative of the returns that could be expected in a similar investing environment.

At June 30, 2009, the ASRS held $\$ 577.8$ million in real estate assets, an increase of $\$ 63.9$ million from FY 2008. The rate of return was -37.9 percent compared to a -9.3 percent return in FY 2008, a 28.6 percent decrease. The ASRS real estate benchmark, the

# Management's Discussion and Analysis 

NCREIF Property Index +100 basis points, had a rate of return of -13.7 percent for FY 2009. The ASRS underperformed its real estate benchmark largely due to the fact that the real estate program is young and in its early stages of investment. Further, the ASRS portfolio utilizes leverage, which was 58.2 percent, as of June 30, 2009. 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 non-core 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, 2009, the ASRS held $\$ 276.9$ million in private equity investments, an increase of $\$ 147.5$ million from FY 2008. 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 (IRR) 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 $-32.1 \%$. For the same period, the Russell 3000 Index plus 300 basis points also returned $-32.1 \%$. The negative return for the program is consistent with the j -curve associated with the program's nascent stage when unrealized valuations and management fees create a disproportionate amount of return dispersion relative to their impact over the life of a fund.

At June 30, 2009, the ASRS held $\$ 176.4$ million in opportunistic funds, an increase of $\$ 99.9$ million from FY 2008. Three opportunistic investments were made during FY09 whose performance is evaluated on an absolute Rate of Return Basis. Over the life of these investments, performance is expected to exceed $10 \%$. These investments consist of: Black Rock Mortgage Fund, TCW Credit Fund and Black Rock Credit Fund.

For FY09, in aggregate, ASRS opportunistic investments returned $-19.5 \%$. This performance was primarily the result of continued widening mortgage and credit spreads related to the inception dates of the opportunistic investment strategies and the purchase price of securities made within these strategies.
The ASRS earns additional investment income by lending investment securities. The Bank of New York Mellon acts as agent on behalf of the ASRS for securities lending transactions. The brokers provide collateral and generally use the borrowed securities to initiate short sales and failed trades. The net loss from security lending program for FY 2009 was - $\$ 8.6$ million compared to $\$ 22.8$ million for FY 2008. The ASRS is 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.

## Current Market Conditions

World markets experienced large daily fluctuations due to worldwide economic uncertainty during FY 2009. In order to mitigate losses, both ASRS internal staff and its Global Tactical Asset Allocation managers are reviewing investments under their management (approximately $43 \%$ of the ASRS Total Fund) and rebalancing as appropriate. The economy saw continued weakness throughout the year although capital markets had a significant rally during the second quarter of 2009 on the back of liquidity infusions and fiscal stimulus.

Between June 30, 2009 and November 25, 2009 ASRS total fund net asset values have increased by approximately $14.7 \%$.

[^1]
## Basic Financial Statements

## Combined Statement of Plan Net Assets

June 30, 2009 with Comparative Totals for 2008
(Dollars in Thousands)

|  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
|  | Retirement <br> Fund | Health <br> Supplement <br> Fund <br> (Note 8) | Long-Term <br> Disability <br> Fund <br> (Note 8) | Combined |

LIABILITIES:

| Payable for securities purchased (Note 3) | ) 500,163 | 22,397 | - | 522,560 | 1,245,434 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Payable for securities lending collateral (Note 4) | 4) $3,275,929$ | 146,694 | - | 3,422,623 | 3,794,246 |
| Forward contracts payable (Note 5) | 537,036 | 24,048 | - | 561,084 | 1,608,409 |
| Due to Other funds | 2,327 | 111 | 99 | 2,537 | - |
| Other | 51,767 | 1,659 | 4,242 | 57,668 | 32,128 |
| Total liabilities | 4,367,222 | 194,909 | 4,341 | 4,566,472 | 6,680,217 |
| NET ASSETS HELD IN TRUST FOR PENSION/OPEB BENEFITS: | \$19,880,453 | \$897,193 | \$222,808 | \$21,000,454 | \$26,050,344 |

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, 2009 with Comparative Totals for 2008
(Dollars in Thousands)

| ADDITIONS (REDUCTIONS) | Retirement Fund | Health Benefit Supplement Fund (Note 8) | Long-Term Disability Fund (Note 8) | Combined |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 200 | 200 |
| Contributions: |  |  |  |  |  |
| Member contributions (Note 7) | \$844,540 | - | \$47,213 | \$891,753 | \$904,984 |
| Employer contributions (Note 7) | 754,044 | \$90,490 | 47,213 | 891,747 | 905,680 |
| Transfers from other plans | 3,306 | - | - | 3,306 | 5,196 |
| Member reimbursements | 69,130 | - | - | 69,130 | 90,030 |
| Total Contributions | 1,671,020 | 90,490 | 94,426 | 1,855,936 | 1,905,890 |
| Income (loss) from investment activities: |  |  |  |  |  |
| Net appreciation (depreciation) in fair value (public) ( 4 | $(4,607,182)$ | $(199,928)$ | $(47,920)$ | $(4,855,030)$ | $(2,645,900)$ |
| Interest | 239,293 | 10,692 | 185 | 250,170 | 265,814 |
| Dividends | 264,331 | 11,471 | 9 | 275,811 | 327,354 |
| Real Estate | $(167,809)$ | $(7,282)$ | - | $(175,091)$ | 23,785 |
| Private Equity | $(36,954)$ | $(1,633)$ | - | $(38,587)$ | 2,978 |
| Opportunistic Investments | $(26,193)$ | $(1,137)$ | - | $(27,330)$ |  |
| Other | 9,077 | 221 | - | 9,298 | 12,170 |
| Total income (loss) from investment activities (4, | $(4,325,437)$ | $(187,596)$ | $(47,726)$ | $(4,560,759)$ | $(2,013,799)$ |
| Less investment activity expenses: |  |  |  |  |  |
| Management fees \& monitoring services (public) | $(37,715)$ | $(1,637)$ | - | $(39,352)$ | $(50,363)$ |
| Real estate expense | $(36,433)$ | $(1,581)$ | - | $(38,014)$ | $(23,715)$ |
| Private equity expense | $(23,616)$ | $(1,044)$ | - | $(24,660)$ | $(7,341)$ |
| Opportunistic investments expense | $(2,012)$ | (87) | - | $(2,099)$ |  |
| Total investment activity expenses | $(99,776)$ | $(4,349)$ | - | $(104,125)$ | $(81,419)$ |
| Net income (loss) from investment activities (4, | $(4,425,213)$ | $(191,945)$ | $(47,726)$ | $(4,664,884)$ | $(2,095,218)$ |
| From securities lending activities (Note 4): |  |  |  |  |  |
| Security lending income | 49,846 | 2,163 | - | 52,009 | 158,994 |
| Security lending interest expense | $(26,075)$ | $(1,132)$ | - | $(27,207)$ | $(136,217)$ |
| Security lending unrealized loss | $(32,019)$ | $(1,389)$ | - | $(33,408)$ |  |


| Net income (loss) from securities lending activities | $(8,248)$ | $(358)$ | - | $(8,606)$ | 22,777 |
| :--- | :--- | :--- | :--- | :--- | :--- |

Total net investment income (loss)
TOTAL ADDITIONS (REDUCTIONS)

| $(4,433,461)$ | $(192,303)$ | $(47,726)$ | $(4,673,490)$ | $(2,072,441)$ |
| ---: | ---: | ---: | ---: | ---: |
| $(2,762,441)$ | $(101,813)$ | 46,700 | $(2,817,554)$ | $(166,551)$ |

DEDUCTIONS

| Retirement and disability benefits | $1,888,931$ | 87,723 | 65,781 | $2,042,435$ | $1,921,635$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Survivor benefits | 30,378 | - | - | 30,378 | 22,648 |
| Refunds to withdrawing members, including interest | 12,689 | - | 120,689 | 104,387 |  |
| Administrative expenses | 27,322 | 1,223 | 2,851 | 31,396 | 33,227 |
| Transfers to other plans | 5,706 | - | - | 5,706 | 177,176 |
| Other | 1,267 | 34 | 431 | 29 |  |
| TOTAL DEDUCTIONS | $2,074,293$ | 88,980 | 69,063 | $2,232,332$ | $2,259,102$ |
|  |  |  |  |  |  |
| NET INCREASE (DECREASE) | $(4,836,734)$ | $(190,793)$ | $(22,363)$ | $(5,049,890)$ | $(2,425,653)$ |

NET ASSETS HELD IN TRUST FOR PENSION/OPEB BENEFITS:
Beginning of year
End of year

| $24,717,187$ | $1,087,986$ | 245,171 | $26,050,344$ | $28,475,997$ |
| ---: | ---: | ---: | ---: | ---: |
| $\$ 19,880,453$ | $\$ 897,193$ | $\$ 222,808$ | $\$ 21,000,454$ | $\$ 26,050,344$ |

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, multipleemployer, 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 of the Arizona Revised Statutes ("A. R.S.").

The ASRS administers the Arizona State Retirement System ("the System", a defined contribution plan) and the Arizona State Retirement Plan ("the Plan", a defined benefit plan). The System and Plan are separate components of the same pension plan. 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 non-retired members of the System became members of the Plan as prescribed by Laws of 1980, Chapter 238.
A.R.S. 38-783 and A.R.S. 38-797 require separate accounts be established for health insurance premium benefits and long-term disability benefits,
respectively. Effective July 1, 1995, the ASRS 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 benefit cost-sharing, multiple-employer post-employment benefit plans. Although the assets of the HBS Fund are commingled with assets of the Retirement Fund, each plan's assets may be used only for the payment of benefits to the members of that plan, in accordance with the terms of the plan.

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 are excluded from gross income for federal and state income tax purposes. 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.

## Notes to the Basic Financial Statements

At June 30, 2009 and June 30, 2008, the number of participating employers and employees totaled:

| EMPLOYER UNITS: | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ |
| :--- | ---: | ---: |
| School Districts | 242 | 235 |
| Charter Schools | 156 | 159 |
| Cities and Towns | 78 | 77 |
| Counties | 15 | 15 |
| Special Districts | 94 | 86 |
| Community College Districts | 10 | 10 |
| Universities | 3 | 3 |
| State Government | $\mathbf{1}$ | 1 |
| TOTAL | $\mathbf{5 9 9}$ | $\mathbf{5 8 6}$ |
| EMPLOYEE MEMBERS: | $\mathbf{9 9 , 1 2 5}$ |  |
| Retirees (including Beneficiaries) | 228,896 | 92,673 |
| Non Active Fully Vested | 4,672 | 223,497 |
| Long-Term Disability recipients |  | 4,957 |
| CURRENT EMPLOYEES: | 223,323 | 227,730 |
| Active | $\mathbf{5 5 6 , 0 1 6}$ | $\mathbf{5 4 8 , 8 5 7}$ |
| TOTAL |  |  |

* The 599 Employer Reporting Units represent 708 total employers. Of the retirees and LTD recipients noted above, 58,035 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 Plan 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:

- 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 of service - 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

## Notes to the Basic Financial Statements

for accumulated vacation or annual leave, sick leave, compensatory time or any other form of termination pay. 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:

- 5 to 5.9 years of service -25 percent of employer contributions
- 6 to 6.9 years of service -40 percent of employer contributions
- 7 to 7.9 years of service -55 percent of employer contributions
- 8 to 8.9 years of service -70 percent of employer contributions
- 9 to 9.9 years of service - 85 percent of employer contributions
- 10 or more years of service -100 percent of employer contributions

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

## Notes to the Basic Financial Statements

incurred. Investment income and expenses derived from private investments are recognized on a quarterly lag.

Investments - Investments include 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, using pricing services or prices quoted by independent brokers at current exchange rates.

The ASRS primarily invests in two types of derivatives, currency forward contracts and equities index futures contracts. The fair value of currency forward contracts is a calculated value, determined by interpolating the spot rate and the forward rates based upon number of days to maturity.

Futures contracts on equity indexes trade daily and are settled the following trade day. The value of each contract is marked to market daily during the period that the contract is held. This value is determined by calculating the daily difference, called "margin", between the closing Bloomberg market price of the applicable contract(s) on the valuation date as compared to the prior day. ASRS exchanges the daily per-contract margin, by the number of contracts held, with the counterparty brokerage firm with whom ASRS transacts its equity index futures trading. The counterparty pays the total margin to ASRS if the daily market value of the contract(s) rises; ASRS pays the counterparty if the daily market value declines.

Private real estate, private equity and opportunistic investments are valued based upon the partnerships' March 2009 financial statements adjusted for cash flows through June 30, 2009. Net asset values for private real estate, private equity and opportunistic investments are accounted for on a quarter lag basis, updated on a monthly basis as cash flows occur.

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 investments income and total investment expense. This includes investment management, custodial fees, 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 does not record property and equipment (principally office furniture and fixtures) as assets, but includes the cost of such items in administrative expenditures in the year purchased due to the insignificant total cost.
Federal Income Tax Status - During the year ended June 30, 2009, 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.

## Notes to the Basic Financial Statements

Actuarial Valuation - The information included in the required supplemental schedules is based on the actuarial valuations performed as of June 30, 2008, which is the latest available information. Significant actuarial assumptions used in the valuations are included in the notes to the required supplemental schedules.
Use of Estimates - The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

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' financial statements for the year ended June 30, 2008, from which the summarized information was derived.
New Accounting Pronouncements - GASB Statement No. 52 was issued and is effective for periods beginning after June 15, 2008. It requires land and other real estate held as investments by endowments to be reported at fair value; likewise, changes in fair value are to be reported as investment income. GASB Statement No. 52 also requires disclosure of assumptions employed to determine fair value. As the ASRS was previously accounting for land and other real estate at fair value, there is no effect on our financial statements.

## 3. Cash And Investments

Cash - Cash deposits are subject to custodial risk. Custodial risk is the risk that in the event of a bank failure, ASRS'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, real estate, private equity and opportunistic investments.

## Notes to the Basic Financial Statements

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

1. No more than 80 percent of the ASRS' 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' 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' 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' 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 $\$ 232$ million and a payable for securities purchased of $\$ 523$ million at June 30, 2009.

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

The following table shows the investments by investment type:

## I NVESTMENTS

at June 30, 2009
(Dollars in Thousands)
Investment
Cash and Cash Equivalents
Foreign Currency
Temporary Investments including US Tbills
$\quad$ Total Temporary Investments

| Retirement <br> HBS | LTD | $\mathbf{2 0 0 9}$ <br> Fair Value |
| :---: | ---: | ---: |
| $\$ 37,761$ | $\$-$ | $\$ 37,761$ |
| 5,612 | - | 5,612 |
| $1,115,254$ | 8,194 | $1,123,448$ |
| $1,158,627$ | 8,194 | $1,166,821$ |

Temporary Investments from Securities Lending Collateral:
U. S. Government Obligations
U. S. Agency Obligations

Corporate Obligations - Domestic
Preferred and Common Stock- Domestic
Preferred and Common Stock -Foreign
Total Securities Lending Collateral
US Government Obligations
US Agency Obligations
Total US Government Obligations
Corporate Bonds
Domestic Common and Preferred Stock Foreign Common and Preferred Stock

Total Common and Preferred Stock
Real Estate Investments
Private Equity Investments
Opportunistic Investments
TOTAL INVESTMENTS AT FAIR VALUE
Short Term Investment Receivables

INVESTMENTS AT FAIR VALUE - NET

| 857,131 |
| ---: |
| $(4,545,048)$ |
| $\mathbf{\$ 2 0 , 7 3 8 , 5 8 7}$ |

$\begin{array}{rr}- & 857,131 \\ (4,000) & (4,549,048)\end{array}$
\$211,151
\$20,949,738

## 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, 2009 categorized to give an indication of the level of risk assumed by ASRS:

## DEBT SECURITIES

CREDIT QUALITY RISK (FIXED INCOME SECURITIES)
At June 30, 2009
(Dollars in Thousands)

| Not |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Investment | Fair Value | AAA | AA | A | BBB | BB | B | CCC | CC | C Rated |

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

The following table shows the effective duration by investment type:

| I nterest Rate Risk <br> at June 30, 2009 <br> (Dollars in Thousands) |  |  |
| :---: | :---: | :---: |
| INVESTMENT | FAIR VALUE | EFFECTIVE DURATION <br> (in years) |
| Domestic Fixed I ncome I nvestments |  |  |
| Asset Backed Securities | \$139,591 | 1.0 |
| Commerical Mortgage Backed | 458,816 | 3.3 |
| Corporate Bonds | 1,735,814 | 3.6 |
| Non-Government Backed CMO's | 196,804 | 6.0 |
| Total Corporate Bonds | 2,531,025 |  |
| Government Agencies | 564,510 | 5.0 |
| Government Agencies CMO's | 16,969 | 1.7 |
| Government Bonds | 659,902 | 5.0 |
| Government Morgtage Backed | 1,663,108 | 2.8 |
| Total Government Bonds | 2,904,489 |  |
| Total Debt Securities | \$5,435,514 |  |

## 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, 2009
(Dollars in Thousands)

| Currency Type In | Temporary I nvestments | Fixed Income | Equities | Real Estate | Private Equity | Opportunistic | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Australian Dollar | \$45,211 | \$ | \$56,301 | \$ | \$ | \$ | \$101,512 |
| British Pound Sterling | 40,124 | 2,516 | 450,605 | - | - | - | 493,245 |
| Canadian Dollar | 14,504 | - | 23,267 | - | - | - | 37,771 |
| Chinese Yuen | 100 | - | - | - | - | - | 100 |
| Czech Koruna | 226 | - | 3,776 | - | - | - | 4,002 |
| Danish Krone | 825 | - | 18,233 | - | - | - | 19,058 |
| Euro Currency Unit | $(22,750)$ | 283 | 843,481 | - | 24,020 | - | 845,034 |
| Hong Kong Dollar | 8,035 | - | 93,429 | 35 | - | - | 101,499 |
| Indonesian Rupian | 4 | - | - | - | - | - | 4 |
| Japanese Yen | 84,665 | - | 558,600 | - | - | - | 643,265 |
| Malaysian Ringit | - | - | 689 | - | - | - | 689 |
| New Mexican Peso | - | - | 2,467 | - | - | - | 2,467 |
| New Taiwan Dollar | - | - | 3,651 | - | - | - | 3,651 |
| New Zealand Dollar | $(31,206)$ | - | 6,799 | - | - | - | $(24,407)$ |
| Norwegian Krone | (501) | - | 11,807 | - | - | - | 11,306 |
| South African Comm Rand | d | - | 11,599 | - | - | - | 11,599 |
| Singapore Dollar | 3,241 | - | 18,370 | - | - | - | 21,611 |
| South Korean Won | - | - | 14,012 | - | - | - | 14,012 |
| Swedish Krona | 25,349 | - | 25,032 | - | - | - | 50,381 |
| Swiss Franc | 102,103 | - | 206,323 | - | - | - | 308,426 |
| Thailand Baht | - | - | 1,014 | - | - | - | 1,014 |
| Total | \$269,930 | \$2,799 | \$2,349,455 | \$35 | \$24,020 | \$ - | \$2,646,239 |

## 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' 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 credit risk exposure 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. Initial 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) yankee securities,
f) repurchase agreements,
g ) insurance company funding agreements, guaranteed investment contracts and bank investment contracts,
h) asset-backed securities,
i) 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, 2009, the fair value of securities on loan was $\$ 3.46$ billion. Cash of $\$ 3.42$ billion received as collateral for securities loaned was reinvested and had a net asset value of $\$ 3.36$ billion as of June 30, 2009. The securities lending payable at June 30, 2009, was $\$ 3.42$ 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 allowable reinvestment default risk. The ASRS is invested in one or more securities lending collateral vehicles which were impaired as a result of recent market events of FY 2009. This impairment resulted in the recognition of a $\$ 33.4$ million loss in FY 2009.

## Notes to the Basic Financial Statements

## 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 case 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.
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.

Generally, derivatives are subject to both market risk and counterparty risk. The derivatives utilized by ASRS managers typically have no greater market risk than their physical counterparts, and in many cases are offset by exposure elsewhere in the portfolio. As of June 30, 2009, the ASRS had $\$ 814$ thousand in temporary investments held as collateral for equity and fixed income derivatives which may have a positive or negative notional value.
The ASRS believes that it is unlikely that any of the derivatives used by its managers could have a material adverse effect on the financial conditions of the ASRS.

## 6. Funding Status and Progress

Significant actuarial assumptions used in the June 30, 2008 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 4.25 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, 2008 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 10 -year period. The unfunded actuarial accrued liability is amortized over a rolling 15 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.

## 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 Date 30-J un | Actuarial Value of Assets a | Actuarial Accrued Liability Projected Unit-Credit b | (Overfunded) Unfunded Actuarial Accrued Liability (b-a) | Funded Ratio (a/b) | Covered Payroll c | UAAL as a Percentage of Covered Payroll [(b-a)/c] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Retirement Plan |  |  |  |  |  |  |
| 2008 | \$26,613 | \$32,425 | \$5,812 | 82.1\% | \$9,708 | 59.9\% |
| Health Insurance Premium Benefit |  |  |  |  |  |  |
| 2008 | \$1,239 | \$1,446 | \$207 | 85.7\% | \$9,708 | 2.1\% |
| Long Term Disability Program |  |  |  |  |  |  |
| 2008 | \$275 | \$553 | \$278 | 49.7\% | \$9,708 | 2.9\% |

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 multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Schedules of employer contributions, also presented as required supplementary information following the notes to the financial statements, present trend information about the amounts contributed to the plan by employers in comparison to the annual
required contribution (ARC). The 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 short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

## Notes to the Basic Financial Statements

## 7. Contributions Required and Contributions Made

The A.R.S. provides statutory authority for determining the employees' and employers' contribution amounts as a percentage of covered payrolls. Employers are required to contribute at the same total rate as employees. Employees' contributions are applied towards the Retirement Plan and LTD. Employers' contributions are applied towards the Retirement Plan, Health Insurance Premium Supplement Plan and the LTD Plan. There is no legal or contractual maximum contribution rate for employees or employers. Legislation, which became law as of July 1, 2005, requires annual contribution rate calculations for all fiscal years beginning
after fiscal year end 2007. The actuarial assumptions used in this measure are those adopted by the ASRS' Board in 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 percent of pay needed to pay the normal cost of the Plan and to amortize the unfunded actuarial accrued liability over a rolling 30 year period for the retirement plan and the health insurance supplement plan. The long term disability plan uses a rolling 15 year period to reflect the shorter duration of LTD benefits.

The contribution rates for the years ended June 30, 2009 and 2008 were as follows:

|  | For the contribution period ending J une 30, 2009 (2007 Valuation) |  | For the contribution period ending J une 30, 2008 (2006 Valuation) |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Amount | Percent of Covered Payroll | Amount | Percent of Covered Payrol |
| Normal cost | \$1,133,088,527 | 12.36\% | \$1,061,185,947 | 12.78\% |
| Amortization of under-funded past service liability | 418,305,460 | 4.58 \% | 363,989,961 | 4.37 \% |
| RETIREMENT TOTAL | 1,551,393,987 | 16.94 \% | 1,425,175,908 | 17.15 \% |
| Normal cost | 52,254,083 | 0.57 \% | 52,433,103 | 0.63 \% |
| Amortization of under-funded past service liability | 35,619,897 | 0.39 \% | 34,510,522 | 0.42 \% |
| HEALTH PREMIUM BENEFIT TOTAL | 87,873,980 | 0.96 \% | 86,943,625 | 1.05 \% |
| Normal cost | 47,774,219 | 0.54 \% | 45,907,451 | 0.53 \% |
| Amortization of under-funded past service liability | 40,328,046 | 0.46 \% | 41,150,594 | 0.47 \% |
| LONG TERM DISABILITY TOTAL | 88,102,265 | 1.00 \% | 87,058,045 | 1.00 \% |
| ACTUARIAL TOTAL | \$1,727,370,232 | 18.90 \% | \$1,599,177,578 | 19.20 \% |

Contributions made as a percentage of the current year covered payroll:

| Employers' Retirement * | $\$ 753,909,718$ | $7.99 \%$ | $\$ 759,171,555$ | $8.05 \%$ |
| :--- | ---: | ---: | ---: | ---: |
| Employees' Retirement * | $844,405,884$ | $8.95 \%$ | $857,502,851$ | $9.10 \%$ |
| Employers' Health Premium Benefit | $90,489,881$ | $0.96 \%$ | $99,026,974$ | $1.05 \%$ |
| Employers' Long Term Disability | $47,212,670$ | $0.50 \%$ | $47,171,037$ | $0.50 \%$ |
| Employees' Long Term Disability | $47,212,670$ | $0.50 \%$ | $47,171,037$ | $0.50 \%$ |
| TAL | $\mathbf{\$ 1 , 7 8 3 , 2 3 0 , 8 2 3}$ | $\mathbf{1 8 . 9 0} \%$ | $\mathbf{\$ 1 , 8 1 0 , 0 4 3 , 4 5 4}$ | $\mathbf{1 9 . 2 0} \%$ |

[^2]
## Notes to the Basic Financial Statements

The statutory contribution rate and actuarially determined contribution rate for the year ended June 30, 2008 was 9.6 percent for both the employees' and employers' portion. (Employees paid 9.1 percent retirement and .50 percent long-term disability. Employers paid 8.05 percent retirement, 1.05 percent for the health insurance premium supplement and .50 percent for long-term disability.) This rate was determined by the 2006 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, 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 for 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. 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.

## 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 .50 percent of compensation to the LTD fund in FY 2009 and .50 percent in FY 2008.
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, 2009, more than 37,820 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 2009 the employer's retirement contribution of 8.95 percent of compensation included .96 percent for the Health Premium Insurance Supplement.

## Notes to the Basic Financial Statements

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

| Years of Credited <br> Service | Percent of Premium Benefit | Without Medicare |  | With Medicare A \& B |  | Combinations |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 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 |

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.

For qualified retirees who are participating in a medical program provided by the ASRS or an

ASRS employer and who live in areas of Arizona where no managed care (HMO) program is offered, the 2007 Arizona Legislature passed, and the Governor signed, legislation to provide an additional temporary premium benefit effective July 1, 2007 through June 30, 2009. This benefit is not available for retirees who are not Medicare eligible.

These additional increases are listed in the table below:

| With Medicare A \& B |  |  | Combinations |
| :--- | :--- | :---: | :---: |
| Years of <br> Credited <br> Service | Retiree <br> Only |  <br> Dependents | Medicare Eligible <br> Retiree with at <br> least one Non- <br> Medicare <br> Dependent |

## Notes to the Basic Financial Statements

The ASRS reimbursed approximately $\$ 87.7$ million and $\$ 85.1$ million towards the cost of group health insurance coverage for the years ended June 30, 2009 and 2008, respectively.

## 9. Contingent Liabilities

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

## 10. Commitments

In connection with the purchase of various partnership interests in the real estate, private equity and opportunistic investment portfolios, the ASRS has remaining unfunded commitments of approximately $\$ 765.2$ million, $\$ 1,094.3$ million and $\$ 45$ million, respectively, as of June 30, 2009.

## 11. Transfers 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.

## 12. Required Supplementary Schedules

Historical trend information designed to provide information about the ASRS' progress in accumulating sufficient assets to pay benefits when due is required supplementary information. Required supplementary information prepared in accordance with the parameters of GASB Statement No. 25 and GASB Statement No. 43 is included immediately following the notes to the financial statements.

## 13. Retirement Plans

All eligible ASRS employees are covered by the Arizona State Retirement Plan. The Plan is a costsharing, 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 of the Arizona Revised Statutes (A.R.S.).

The ASRS Retirement Plan provides retirement and disability benefits, annual cost of living adjustments 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 an account 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, 2009 and June 30,2008 , were 9.45 percent ( 8.95 percent retirement and .5 percent LTD) and 9.6 ( 9.1 percent retirement and .5 percent LTD), respectively. All eligible ASRS employees were required to contribute 9.45 percent of their annual covered salary, and the ASRS, as the employer, was required to match these contributions.

## Notes to the Basic Financial Statements

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

| FISCAL <br> YEAR | SALARY <br> BASE | RETIREMENT <br> CONTRIBUTIONS | HBS <br> CONTRIBUTIONS | LTD <br> CONTRIBUTIONS | TOTAL <br> CONTRIBUTIONS | \% OF REQUIRED <br> CONTRIBUTIONS |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 2009 | $\$ 10,567,948$ | 845,150 | $\$ 101,542$ | $\$ 51,979$ | $\$ 998,671$ | $100 \%$ |
| 2008 | $10,786,746$ | 878,432 | 103,056 | 54,039 | $1,035,528$ | $100 \%$ |
| 2007 | $10,549,141$ | 873,146 | 117,773 | 51,488 | $1,042,407$ | $100 \%$ |

The contributions were equal to the required contributions. The ASRS collects the contributions and remits them to the Plan. Employee contributions 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.

## Required Supplementary Information

## Schedule of Funding Progress

For Year Ended June 30, 2009
(in Millions)

| Actuarial | Actuarial |
| :---: | :---: |
| Valuation | Value of |
| Date | Assets |
| 30-J un | a |


| Actuarial | (Overfunded) <br> Accrued Liability <br> Projected |
| :---: | :---: |
| Unfunded |  |
| Unit-Credit | Accruarial |
| b | $(\mathbf{b}-\mathbf{a})$ |

\(\left.$$
\begin{array}{ccc}\text { Funded } \\
\begin{array}{c}\text { Ratio } \\
\text { (a/ b) }\end{array} & \begin{array}{c}\text { Covered } \\
\text { Payroll } \\
\text { c }\end{array} & \begin{array}{c}\text { Overfunded) Unfunded } \\
\text { Actuarial Accrued }\end{array}
$$ <br>
Liability as a Percentage <br>
of Covered Payroll <br>

[(b-a)/ c]\end{array}\right]\)| 98.4 | $\$ 7,297$ |
| :---: | :---: |
| 92.5 | 7,486 |
| 86.1 | 8,032 |

Health Insurance Premium Benefit *

| 2005 | $\$ 1,028$ | $\$ 1,456$ | $\$ 428$ | 70.6 | $\$ 8,032$ | $5.3 \%$ |
| ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| 2006 | 1,085 | 1,505 | 420 | 72.1 | 8,312 | 5.1 |
| 2007 | 1,167 | 1,605 | 438 | 72.7 | 9,162 | 4.8 |
| 2008 | 1,239 | 1,446 | 207 | 85.7 | 9,708 | 2.1 |

Long Term Disability Program *

| 2005 | $\$ 165$ | $\$ 577$ | $\$ 413$ | 28.6 | $\$ 8,032$ | $5.1 \%$ |
| ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| 2006 | 194 | 575 | 380 | 33.8 | 8,312 | 4.6 |
| 2007 | 232 | 604 | 372 | 38.3 | 9,162 | 4.1 |
| 2008 | 275 | 553 | 278 | 49.7 | 9,708 | 2.9 |

* Information not available prior to 2005.


## Schedule of Employer Contributions

For Year Ended June 30, 2009
(in Thousands)

|  | Retirement Fund |  | Health Insurance Premium Benefit |  | Long Term Disability Program |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Annual Required Contribution | Percentage Contributed | Annual Required Contribution | Percentage Contributed | Annual Required Contribution | Percentage Contributed |
| 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 |

See notes to required supplemental information.

# Notes to Required Supplementary Information 

## 1. Actuarial Methods and Assumptions for Valuations Performed

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

The Projected Unit Credit (PUC) method is the actuarial cost method used in the valuations for the period ended June 30, 2008. 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 4.25 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 Identification of Trends <br> 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 is 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 $\$ 215$


## 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


## Notes to Required Supplementary Information

- 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.


## Modified Deferred Retirement Option Plan (DROP) Program

Permits an employer to offer a member who has reached normal retirement ( 80 points, age 62 with 10 years, or age 65) a contract to work up to an additional three years. Retirement contributions are not made to ASRS during the contract period; however LTD contributions still continue to be paid to the ASRS. During the contract period, the member and employer contribute to a supplemental DC Plan at a rate negotiated between the member and the employer. Upon completing the additional service, the employee must purchase an equivalent amount of service from the ASRS in order to receive credit for the three years worked.

## 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. 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.

## Notes to Required Supplementary Information

## Removal of requirement that purchase of military service be only for which the member is not receiving a benefit

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

## Pop-Up for members choosing a 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 postretirement 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 five-year 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 fiveyear schedules.

## Extension of the Rural Health Insurance Premium Benefit

The Arizona Legislature passed legislation that extends the Rural Health Insurance Subsidy for a period of two additional years.

## 2004

## Service Purchase Program

The Arizona 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 $8 \%$ per an-
num for service purchases under payroll deduction agreements.

## Early Retirement Incentive Programs

The Arizona 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 Arizona 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.

## The Arizona 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.
- The legislature 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 Arizona retirement system who are not eligible for Medicare.


# Notes to Required Supplementary Information 

## 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 Medicare-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 preexisting 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 (most recent actuarial valuation)

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.

## 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 US State Department.

## Additional Supplementary Information

Combining Schedule of Retirement Net Assets
For the Year Ended June 30, 2009
(Dollars in Thousands)

|  | Retirement Plan | Retirement System | Combined 2009 |
| :---: | :---: | :---: | :---: |
| ASSETS: |  |  |  |
| Cash | \$2,855 | \$- | \$2,855 |
| Prepaid benefits | 566 | - | 566 |
| RECEIVABLES: |  |  |  |
| Accrued interest \& dividends | 57,757 | \$1,116 | 58,873 |
| Securities sold | 217,652 | 4,205 | 221,857 |
| Forward contracts | 527,787 | 10,196 | 537,983 |
| Contributions | 40,944 | 10 | 40,954 |
| Due from other funds | 1,629 | 3 | 1,632 |
| Other | 3,139 | 29 | 3,168 |
| Total receivables | 848,908 | 15,559 | 864,467 |
| INVESTMENTS AT FAIR VALUE : |  |  |  |
| Temporary investments | 1,082,160 | 22,915 | 1,105,075 |
| Temporary investments from securities lending collateral | 3,213,843 | 62,086 | 3,275,929 |
| U. S. government obligations | 2,677,912 | 76,040 | 2,753,952 |
| Corporate bonds | 2,362,072 | 39,991 | 2,402,063 |
| Common and preferred stocks | 12,628,115 | 226,877 | 12,854,992 |
| Real estate | 541,552 | 12,143 | 553,695 |
| Private equity | 265,069 | - | 265,069 |
| Opportunistic investments | 165,304 | 3,708 | 169,012 |
| Total investments | 22,936,027 | 443,760 | 23,379,787 |
| TOTAL ASSETS | 23,788,356 | 459,319 | 24,247,675 |
| LIABILITIES: |  |  |  |
| Payable for securities purchased | 490,684 | 9,479 | 500,163 |
| Payable for securities lending collateral | 3,213,843 | 62,086 | 3,275,929 |
| Forward contracts payable | 526,858 | 10,178 | 537,036 |
| Due to Other funds | 906 | 1,421 | 2,327 |
| Other | 49,822 | 1,945 | 51,767 |
| Total liabilities | 4,282,113 | 85,109 | 4,367,222 |
| NET ASSETS HELD IN TRUST FOR PENSION BENEFITS | \$19,506,243 | \$374,210 | \$19,880,453 |

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 I nformation 

## Combining Schedule of Changes in Retirement Net Assets

For the Year Ended June 30, 2009
(Dollars in Thousands)

ADDITIONS (REDUCTIONS)

| $\substack{\text { Retirement } \\ \text { Plan }}$ | Retirement <br> System | Combined <br> 2009 |
| :---: | :---: | :---: |

Contributions
Member contributions
Employer contributions
Transfers from other plans
Member reimbursements

| $\$ 844,406$ | $\$$ | 134 | $\$ 844,540$ |
| ---: | ---: | ---: | ---: |
| 753,910 |  | 134 | 754,044 |
| 3,306 |  | 3,306 |  |
| 69,130 |  | - | 69,130 |
| $1,670,752$ | 268 | $1,671,020$ |  |

Income (loss) from investment activities
Net appreciation (depreciation) in fair value (public)
Interest

| $(4,523,010)$ | $(84,172)$ | $(4,607,182)$ |
| ---: | ---: | ---: |
| 234,922 | 4,371 | 239,293 |
| 259,502 | 4,829 | 264,331 |
| $(164,743)$ | $(3,066)$ | $(167,809)$ |
| $(36,954)$ | - | $(36,954)$ |
| $(25,715)$ | $(478)$ | $(26,193)$ |
| 8,984 | 93 | 9,077 |
| $(4,247,014)$ | $(78,423)$ | $(4,325,437)$ |

Total income (loss) from investment activities
Less investment activity expenses

| Management fees and monitoring services (public) | $(37,026)$ | $(689)$ | $(37,715)$ |
| :--- | ---: | ---: | ---: |
| Real estate expense | $(35,767)$ | $(666)$ | $(36,433)$ |
| Private equity expense | $(23,616)$ | - | $(23,616)$ |
| Opportunistic investments expense | $(1,975)$ | $(3,012)$ |  |
| estment activity expenses | $(98,384)$ | $(1,392)$ | $(99,776)$ |
|  |  | $(79,815)$ | $(4,425,213)$ |

From securities lending activities
Security lending income
Security lending interest expense
Security lending unrealized loss

| 48,935 | 911 | 49,846 |
| ---: | ---: | ---: |
| $(25,599)$ | $(476)$ | $(26,075)$ |
| $(31,434)$ | $(585)$ | $(82,019)$ |
| $(8,098)$ | $(150)$ | $(4,433,461)$ |
| $(4,353,496)$ | $(79,965)$ | $(2,762,441)$ |

DEDUCTIONS
Retirement and disability benefits
Survivor benefits
Refunds to withdrawing members, including interest
Administrative expenses
Transfers to other plans
Other
TOTAL DEDUCTIONS
NET INCREASE (DECREASE)

| $1,839,024$ | 49,907 | $1,888,931$ |
| ---: | ---: | ---: |
| 27,742 | 2,636 | 30,378 |
| 118,609 | 2,080 | 120,689 |
| 26,804 | 518 | 27,322 |
| 5,706 | - | 5,706 |
| 1,252 | 15 | 1,267 |
| $2,019,137$ | 55,156 | $2,074,293$ |
| $(4,701,881)$ | $(134,853)$ | $(4,836,734)$ |

NET ASSETS HELD IN TRUST FOR PENSION BENEFITS:
Beginning of year
End of year

| $24,208,124$ | 509,063 | $24,717,187$ |
| ---: | ---: | ---: |
| $\$ 19,506,243$ | $\$ 374,210$ | $\$ 19,880,453$ |

## Additional Supplementary I nformation

Schedule of Additions by Source
(Dollars in Thousands)

|  | Member <br> Contribution <br> Made | Employer <br> Contribution <br> Made | Net <br> Investment <br> Income | Member <br> Reimbursements <br> and Other | Total |
| :--- | :---: | :---: | :---: | :---: | ---: |
| 2000 | 152,957 | 152,958 | $2,035,312$ | 35,348 | $2,376,575$ |
| 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 | $(2,817,554)$ |

Schedule of Deductions by Type
(Dollars in Thousands)

| Year | Benefits | Administration, <br> Refunds | Transfers <br> and Other | Total |
| :--- | :---: | :---: | :---: | :---: |
| 2000 | 787,553 | 70,754 | 19,744 | 878,051 |
| 2001 | 909,615 | 98,535 | 24,640 | $1,032,790$ |
| 2002 | $1,069,044$ | 42,765 | 28,105 | $1,139,914$ |
| 2003 | $1,222,564$ | 35,976 | 37,877 | $1,296,417$ |
| 2004 | $1,396,481$ | 36,212 | 35,745 | $1,468,438$ |
| 2005 | $1,576,734$ | 44,164 | 33,426 | $1,654,324$ |
| 2006 | $1,703,215$ | 60,313 | 39,395 | $1,802,923$ |
| 2007 | $1,824,865$ | 77,910 | 47,703 | $1,950,478$ |
| 2008 | $1,944,283$ | 104,387 | 210,432 | $2,259,102$ |
| 2009 | $2,072,813$ | 120,689 | 38,834 | $2,232,336$ |

## Additional Supplementary I nformation

## Schedule of Administrative Expenses

For Year Ended June 30, 2009
(Dollars in Thousands)

|  | Retirement and <br> Health Benefit <br> Supplement | Long-Term <br> Disability | Combined <br> $\mathbf{2 0 0 9}$ |
| :--- | ---: | ---: | ---: |
| Personnel Services | $\$ 10,852$ | $\$-$ | $\$ 10,852$ |
| Salaries | 946 | - | 946 |
| Retirement Contributions | 3,125 | - | 3,125 |
| Other Employee Related Expenses | $\mathbf{1 4 , 9 2 3}$ | - | $\mathbf{1 4 , 9 2 3}$ |
| Total Personnel Services |  |  |  |
|  |  | - | $\mathbf{7 4 3}$ |
| Professional Services | 743 | - | 613 |
| Actuary \& Benefit Consulting | 613 | - | 1,876 |
| Audit, Consulting \& Legal Fees | 1,876 | $\mathbf{2 , 8 5 1}$ | $\mathbf{7 , 1 1 7}$ |
| Programming Costs | 4,266 | $\mathbf{2 , 8 5 1}$ | $\mathbf{1 0 , 3 4 9}$ |
| Other Outside Services | $\mathbf{7 , 4 9 8}$ |  |  |

## Communications

| Postage and Delivery | 756 | - | 756 |
| :---: | :---: | :---: | :---: |
| External Printing | 115 | - | 115 |
| Telephone | 406 | - | 406 |
| Advertising | 20 | - | 20 |
| Total Communications | 1,297 | - | 1,297 |
| Miscellaneous |  |  |  |
| Office Rent | 2,029 | - | 2,029 |
| Furniture \& Equipment | 670 | - | 670 |
| Software \& Support | 1,139 | - | 1,139 |
| Repair \& Maintenance | 171 | - | 171 |
| Travel | 93 | - | 93 |
| Operating Supplies | 84 | - | 84 |
| Insurance | 131 | - | 131 |
| Dues \& Subscriptions | 391 | - | 391 |
| Education \& Training | 115 | - | 115 |
| Miscellaneous | 4 | - | 4 |
| Total Miscellaneous | 4,827 | - | 4,827 |
| TOTAL | \$28,545 | \$2,851 | \$31,396 |

## Additional Supplementary Information

## Schedule of Professional Consultant Fees

For Year Ended June 30, 2009
(Dollars in Thousands)

| Professional/ Consultant | Nature Of Service Expe | Expenses |
| :---: | :---: | :---: |
| SEDGWICK CLAIMS MANAGMENT SERVICES | LTD ADMINISTRATIVE SERVICES \$2 | \$2,851 |
| COMSYS INFORMATION TECHNOLOGY SERVICES | IT CONSULTING SERVICES | 1,806 |
| MELLON BANK TRUST \& INVESTMENTS | PENSION PAYMENT SERVCES AND CUSTODIAL BANK SERVICES | ERVICES 954 |
| BUCK CONSULTANTS | ACTUARIAL SERVICES | 806 |
| ENNIS, KNUPP \& ASSOCIATES, INC. | INVESTMENT CONSULTING SERVICES | 674 |
| MEKETA INVESTMENT GROUP | INVESTMENT CONSULTING SERVICES | 424 |
| DRC FINANCIAL SERVICES PLLC | ACCOUNTING CONSULTING SERVICES | 397 |
| TOWNSEND GROUP | INVESTMENT CONSULTING SERVICES | 375 |
| PROVINCIA STAFFING LLC | IT CONSULTING SERVICES/TEMPORARY AGENCY | NCY 334 |
| AZ DEPT OF ADMINISTRATION | LEGAL SERVICES | 309 |
| MERCER HUMAN RESOURCE CONSULTING | INVESTMENT CONSULTING SERVICES | 241 |
| NEW ENGLAND PENSION CONSULTANTS | PENSION CONSULTING SERVICES | 166 |
| INSTITUITONAL SHAREHOLDER SVCS INC | InVESTMENT CONSULTING SERVICES | 103 |
| REMEDY TEMPS INC | It CONSULTING SERVICES | 103 |
| CAVANAUGH MACDONALD CONSULTING INC | ACTUARIAL SERVICES | 90 |
| HEINFELD MEECH | AUDIT SERVICES | 89 |
| COX, CASTLE \& NICHOLSON | INVESTMENT LEGAL SERVICES | 64 |
| STRAIGHT LINE PARTNERS LLC | IT CONSULTING SERVICES | 62 |
| SERVIONT GLOBAL SOLUTIONS INC | IT CONSULTING SERVICES | 52 |
| FRANKLIN PARK ASSOCIATES, LLC | INVESTMENT CONSULTING SERVICES | 50 |
| RIDENOUR HIENTON KELHOFFER LEWIS \& GARTH, P.L.L.C. | LEGAL SERVICES | 50 |
| DELL COMPUTER CORP | IT CONSULTING SERVICES | 44 |
| MORRISON \& FOERSTER | INVESTMENT LEGAL SERVICES | 40 |
| LEXIS NEXIS | RESEARCH SERVICES | 36 |
| COST EFFECTIVENESS MEASUREMENT | PLAN ADMINISTRATION CONSULTING | 35 |
| CHARLES W WHETSTINE | LEGAL SERVICES | 33 |
| FOSTER PEPPER AND SHEFELMAN PLLC | INVESTMENT LEGAL SERVICES | 29 |
| DATA SOLUTIONS INC | IT CONSULTING SERVICES | 24 |
| ASAP SOFTWARE EXPRESS INC | IT CONSULTING SERVICES | 21 |
| OTHER CONSULTING FEES (less than fifteen thousand dollars) |  |  |
|  | TOTAL | \$10,349 |

## Additional Supplementary I nformation

## Schedule of Total I nvestment I ncome by Manager

For Year Ended June 30, 2009

## (Dollars Manager

| ACCEL-KKR III | \$- | \$- | \$- |
| :---: | :---: | :---: | :---: |
| AEW VIF II, LP | - | - | - |
| AIG ASIAN FUND | - | - | - |
| APOLLO FUND VII | - | - | - |
| ASRS INTERNAL | $(1,688,516)$ | 132,407 | 120,614 |
| ASRS TIMESSQUARE | $(96,036)$ | 240 | 2,235 |
| ATLAS VENTURE | - | - | - |
| AXA ROSENBERG SC | $(117,715)$ | 32 | 5,423 |
| BANK OF NEW YORK | - | - | 24 |
| BGI EAFE INDEX | (528) | - | - |
| BGI EQUITY INDEX FUND | $(16,028)$ | - | - |
| BGI GLOBAL EXUS | $(258,832)$ | - | - |
| BGI US DEBT FD | 63,223 | - | - |
| BGI/GVT/CRDT BOND INDEX | 1,365 | - | - |
| BGI-DOM CORE EQUITY | $(320,522)$ | - | - |
| BLACKROCK | $(31,824)$ | 56,314 | - |
| BLACKROCK CORE | $(9,871)$ | 14,884 | - |
| BLACKROCK CREDIT INVESTORS | S II, L.P. | - | - |
| BLACKROCK MORTGAGE INVEST | TORS, L.P. - | - | - |
| BRANDES INTL EQUITY | $(399,701)$ | 102 | 36,004 |
| BRANDES LIQUIDATION | 881 | 1 | - |
| BRANDYWINE EQ | 7 | - | - |
| BREP VI (Blackstone) | - | - | - |
| BRIDGEPOINT IV | - | - | - |
| BRIDGEWATER GLBL TAA | $(279,850)$ | 4,314 | 22,071 |
| CAP GUARDIAN INTL EQ | 41 | - | - |
| CAPMARK III | - | - | - |
| CBRE OPPORTUNITY FUND V | - | - | - |
| CBRE VALUE FUND V | - | - | - |
| CHAMPLAIN | $(21,309)$ | 44 | 1,118 |
| CIM FUND III LP | - | - | - |
| CIM URBAN REIT | - | - | - |
| CLASS ACTION | 204 | - | - |
| CLEAR CHANNEL PRV ST | $(6,438)$ | - | - |
| CMEA VENTURE | - | - | - |
| COLONY INVESTORS | - | - | - |
| COLUMBIA SMALL CAP | 86 | - | - |
| COPPER ROCK | $(26,600)$ | 26 | 167 |
| CRM MID CAP VALUE | $(31,234)$ | 63 | 1,910 |
| CROWN EUROPEAN OPP FUND I | I | - | - |
| CVC EUROPEAN V | - | - | - |
| DEAM EAFW | $(26,064)$ | 13 | 2,106 |
| DEAM LEHMAN AGG | 1,558 | 3,631 | 1 |
| DEAM OVERLAY | $(15,034)$ | (175) | - |
| DEAM S\&P 500 | $(69,749)$ | 64 | 4,528 |
| DFA INTL SC | $(46,203)$ | 14 | 3,537 |
| DIMENSIONAL FD EQFD | $(125,426)$ | 27 | 6,333 |
| DUNE REAL ESTATE FUND | - | - | - |
| DUNE REAL ESTATE FUND II | - | - | - |
| EUROPEAN INVEST | $(16,869)$ | 35 | 1,351 |
| FIRST RESERVE XII | - | - | - |
| FIVE MILE CAP II | - | - | - |
| GTAA BGI EQ INDEX FD | $(53,797)$ | - | - |
| GTAA TR BGI EAFE INX | $(34,477)$ | - | - |
| GTAA TR BGI LEH INX | $(12,764)$ | - | - |
| GUGGENHEIM | 15,748 | 3,036 | 15 |


| Real Estate Revenue | Private Equity Revenue | Opportunistic Revenue | Other | Total Investment Income |
| :---: | :---: | :---: | :---: | :---: |
| \$- | \$1 | \$- | \$- | \$1 |
| $(7,545)$ | - | - | - | $(7,545)$ |
| (584) | - | - | - | (584) |
| - | $(4,162)$ | - | - | $(4,162)$ |
| 8,342 | - | - | 1,523 | $(1,425,630)$ |
| - | - | - | - | $(93,561)$ |
| - | (17) | - | - | (17) |
| - | - | - | - | $(112,260)$ |
| - | - | - | - | 24 |
| - | - | - | - | (528) |
| - | - | - | - | $(16,028)$ |
| - | - | - | - | $(258,832)$ |
| - | - | - | - | 63,223 |
| - | - | - | - | 1,365 |
| - | - | - | - | $(320,522)$ |
| - | - | - | 3,969 | 28,459 |
| - | - | - | 52 | 5,065 |
| - | - | 3,092 | - | 3,092 |
| - | - | $(29,022)$ | - | $(29,022)$ |
| - | - | - | 1,257 | $(362,338)$ |
| - | - | - | - | 882 |
| - | - | - | - | 7 |
| $(11,244)$ | - | - | - | $(11,244)$ |
| - | 139 | - | - | 139 |
| - | - | - | - | $(253,465)$ |
| - | - | - | - | 41 |
| $(14,264)$ | - | - | - | $(14,264)$ |
| $(2,636)$ | - | - | - | $(2,636)$ |
| (988) | - | - | - | (988) |
| - | - | - | - | $(20,147)$ |
| $(2,409)$ | - | - | - | $(2,409)$ |
| (732) | - | - | - | (732) |
| - | - | - | - | 204 |
| - | - | - | - | $(6,438)$ |
| - | 194 | - | - | 194 |
| $(26,553)$ | - | - | - | $(26,553)$ |
| - | - | - | - | 86 |
| - | - | - | - | $(26,407)$ |
| - | - | - | - | $(29,261)$ |
| - | $(1,935)$ | - | - | $(1,935)$ |
| - | (826) | - | - | (826) |
| - |  | - | 120 | $(23,825)$ |
| - | - | - | - | 5,190 |
| - | - | - | - | $(15,209)$ |
| - | - | - | 28 | $(65,129)$ |
| - | - | - | 74 | $(42,578)$ |
| - | - | - | 58 | $(119,008)$ |
| $(14,860)$ | - | - | - | $(14,860)$ |
| (280) | - | - | - | (280) |
| - | - | - | 127 | $(15,356)$ |
| - | $(4,671)$ | - | - | $(4,671)$ |
| $(6,959)$ | - | - | - | $(6,959)$ |
| - | - | - | - | $(53,797)$ |
| - | - | - | - | $(34,477)$ |
| - | - | - | - | $(12,764)$ |
| - | - | - | - | 18,799 |

## Additional Supplementary Information

Schedule of Total I nvestment I ncome by Manager (continued) For Year Ended June 30, 2009
(Dollars in
Manager
HANSBER
HEITMAN
HEITMA
HINES
HYPERION
IDG VENTURES
INTECH LARGE
IRONBRIDGE
J.P. MORGAN FIXED

JACOBS LEVY
JLL PARTNERS FUND VI
JPM BOND FUND
LA SALLE
LEVINE LEICHMAN IV
Market
Appreciation
(Depreciation)

| ation ation) | Interest |
| :---: | :---: |
| 61) | 36 |
| - | - |
| - | - |
| 13) | 2,208 |
| - | - |
| 64) | 67 |
| 05) | 41 |
| 94 | 6,147 |
| 38) | (142) |
| - | - |
| 09) | - |
| 15) | 6 |
| - | - |
| - | - |
| - | - |
| - | - |
| 633) | 29 |
| 92) | 95 |
| - | - |
| - | - |
| - | - |
| - | - |
| 25) | 23 |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| 30) | 26,456 |
| - | - |

RESOLUTE FUND III
ROTHSCHILD (FARS IV)
ROTHSCHILD (FARS V)
RREEF GL OPP II
SAYBROOK CREDIT OPPORTUNITIES
SILVER LAKES
$\begin{array}{lr}\text { SSGA - LARGE CAP } & 12 \\ \text { SSGA-S\&P MID CAP FD } & (154,886)\end{array}$
TCW CREDIT OPPORTUNITIES FUND, L.P. -
TCW MEZZANINE
TH LEE VI
THE CARLYLE GROUP
TISHMAN VI LP
TISHMAN VII LP
TR BGI LEHMAN IND
WARBURG PINCUS X
WAYZATA OPP II
$\begin{array}{lcrrr}\text { WELLINGTON MGMT CO } & (103,895) & 132 & 3,447 & - \\ \text { WESTBROOK REAL ESTATE VII } & - & - & - & (6,504) \\ \text { YUCAIPA FUND II } & - & - & - & -\end{array}$

| Real Estate Revenue | Private Equity Revenue | Opportunistic Revenue | Other | Total I nvestment Income |
| :---: | :---: | :---: | :---: | :---: |
| - | - | - | (1) | $(236,976)$ |
| $(6,150)$ | - | - | - | $(6,150)$ |
| $(10,331)$ | - | - | - | $(10,331)$ |
| - | - | - | - | 1,695 |
| - | 2 | - | - | 2 |
| - | - | - | 7 | $(179,991)$ |
| - | - | - | - | $(38,554)$ |
| - | - | - | (55) | 6,586 |
| - | - | - | 8 | $(56,609)$ |
| - | 255 | - | - | 255 |
| - | - | - | - | $(1,109)$ |
| - | - | - | 149 | $(28,855)$ |
| - | 498 | - | - | 498 |
| - | (452) | - | - | (452) |
| 595 | - | - | - | 595 |
| 6,007 | - | - | - | 6,007 |
| - | - | - | 72 | $(135,176)$ |
| - | - | - | 1,263 | $(241,258)$ |
| - | 5 | - | - | 5 |
| - | $(1,977)$ | - | - | $(1,977)$ |
| - | 11 | - | - | 11 |
| - | 616 | - | - | 616 |
| - | - | - | - | $(4,162)$ |
| - | $(2,296)$ | - | - | $(2,296)$ |
| - | $(1,276)$ | - | - | $(1,276)$ |
| - | $(3,142)$ | - | - | $(3,142)$ |
| - | (19) | - | - | (19) |
| - | (218) | - | - | (218) |
| $(1,980)$ | - | - | - | $(1,980)$ |
| $(8,932)$ | - | - | - | $(8,932)$ |
| - | $(4,040)$ | - | - | $(4,040)$ |
| $(15,642)$ | - | - | - | $(15,642)$ |
| - | - | - | 612 | 22,948 |
| - | (376) | - | - | (376) |
| - | (416) | - | - | (416) |
| 1,886 | - | - | - | 1,886 |
| 483 | - | - | - | 483 |
| $(17,273)$ | - | - | - | $(17,273)$ |
| - | (440) | - | - | (440) |
| - | $(3,280)$ | - | - | $(3,280)$ |
| - | - | - | - | 12 |
| - | - | - | - | $(153,588)$ |
| - | - | $(1,400)$ | - | $(1,400)$ |
| - | 1,001 | - | - | 1,001 |
| - | $(7,435)$ | - | - | $(7,435)$ |
| $(5,437)$ | - | - | - | $(5,437)$ |
| $(11,944)$ | - | - | - | $(11,944)$ |
| $(19,157)$ | - | - | - | $(19,157)$ |
| - | - | - | - | 18,124 |
| - | $(3,998)$ | - | - | $(3,998)$ |
| - | $(4,855)$ | - | - | $(4,855)$ |
| - | - | - | 35 | $(100,281)$ |
| $(6,504)$ | - | - | - | $(6,504)$ |
| - | 4,522 | - | - | 4,522 |

total
(\$4,855,030) \$250,170 $\quad \$ 275,811 \quad(\$ 175,091) \quad(\$ 38,587)(\$ 27,330)$
\$9,298 (\$4,560,759)

# Additional Supplementary I nformation 

Schedule of Total Investment Expenses by Manager For the Year Ended June 30, 2009 (Dollars in Thousands)

| Manager M | Management Fees Public | Management Fees Real Estate | Other Expenses Real Estate | Management Fees Private Equity | Other Expenses Private Equity | Management Fees Opportunistic | Other Expenses Opportunistic | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ACCE-KKRIII |  |  |  | \$613 | \$85 |  |  | \$698 |
| AEWVALUE INVESTORS FUNDII, P |  | \$270 |  |  |  |  |  | 270 |
| AGGASIANFUND |  | 570 |  |  |  |  |  | 570 |
| ALAS VENTURE |  |  |  | 62 |  |  |  | 62 |
| APOШOFUNDVI |  |  |  | 529 | 270 |  |  | 799 |
| ASRS INTERNAL |  |  | \$20,305 |  |  |  |  | 20,305 |
| AXAROSENBERG | \$1,514 |  |  |  |  |  |  | 1,514 |
| BARCLAYS GLOBAL INVESTORS | 2,932 |  |  |  |  |  |  | 2,932 |
| BLACKROCK CREDITINVESTORS II, LP. |  |  |  |  |  | \$94 | \$117 | 211 |
| BLACKROCK FINANGAL | 1,957 |  |  |  |  |  |  | 1,957 |
| BLACKROCK MORTGAGE INVESTORS, LP. |  |  |  |  |  | 750 | 687 | 1,437 |
| BRANDES INVESTMENTS | 4,132 |  |  |  |  |  |  | 4,132 |
| BREPVI (Bladkstone) |  | 675 | -824 |  |  |  |  | -149 |
| BRIDGEPOINTIV |  |  |  | 831 | 98 |  |  | 929 |
| BRIDGEWATERASSET | 6,651 |  |  |  |  |  |  | 6,651 |
| CAPMARKIII |  | 1,053 | 1,774 |  |  |  |  | 2,827 |
| CBRE OPPORTUNITIES FUNDV |  | 593 |  |  |  |  |  | 593 |
| CBRE VALUEFUNDV |  | 24 | 151 |  |  |  |  | 175 |
| CHAMPLAININVESTMENT | 1,061 |  |  |  |  |  |  | 1,061 |
| CMFUNDIII ${ }^{\text {P }}$ |  | 181 | 218 |  |  |  |  | 399 |
| CMMURBANREIT |  | 539 |  |  |  |  |  | 539 |
| CMEAVENTURE |  |  |  | 138 | 83 |  |  | 221 |
| COLONYINVESTORS |  | 813 | 154 |  |  |  |  | 967 |
| COPPER ROCK CAPITAL | 495 |  |  |  |  |  |  | 495 |
| CRAMER ROSENTHALMCGYN | 550 |  |  |  |  |  |  | 550 |
| CROWNEUROPEAN OPPFUNDII |  |  |  | 246 | 297 |  |  | 543 |
| CVCEUROPEANV |  |  |  | 691 | 37 |  |  | 728 |
| DEUTSCHE INVESTMENT MANAGEMENT | T 2,171 |  |  |  |  |  |  | 2,171 |
| DIMENSIONALFUND ADMSORS | 1,599 |  |  |  |  |  |  | 1,599 |
| DUNE REALESTATEFUND |  | 667 | 86 |  |  |  |  | 753 |
| DUNEREALESTATEFUNDII |  | 792 | 450 |  |  |  |  | 1,242 |
| EUROPEANINVESTMENT | 251 |  |  |  |  |  |  | 251 |
| FRSTRESERVEXII |  |  |  | 222 | 134 |  |  | 356 |
| FVEMILECAPII |  | 750 | 352 |  |  |  |  | 1,102 |
| GUGGENHEM PARTNERS ASSET MGNT | 459 |  |  |  |  |  |  | 459 |
| HANSBEGER GLOBAL | 1,839 |  |  |  |  |  |  | 1,839 |
| HEITMAN |  | 91 |  |  |  |  |  | 91 |
| HINES CORE |  | 80 |  |  |  |  |  | 80 |
| HYPERION BROOKFIEL ASSET MGNT | 420 |  |  |  |  |  |  | 420 |
| IDGVENTURES |  |  |  | 187 | 32 |  |  | 219 |
| INSTITUTIONALSHAREHOLDER SVCS INC | NC 47 |  |  |  |  |  |  | 47 |
| INTECH | 2,214 |  |  |  |  |  |  | 2,214 |
| IRONBRIDGECAPITAL | 821 |  |  |  |  |  |  | 821 |
| JACOBS LEVY | 650 |  |  |  |  |  |  | 650 |
| JШPARTNERS FUNDV |  |  |  | 591 | 575 |  |  | 1,166 |

## Additional Supplementary I nformation

Schedule of Total I nvestment Expenses by Manager (continued)
For the Year Ended June 30, 2009
(Dollars in Thousands)

| Manager Mana | nagement <br> Fees <br> Public | Management Fees Real Estate | Other Expenses Real Estate | Management Fees Private Equity | Other Expenses Private Equity | Management Fees <br> Opportunistic | Other Expenses Opportunistic | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JPMORGANINVESTMENT | 202 |  |  |  |  |  |  | 202 |
| LASAUEINVESTMENT | 309 |  |  |  |  |  |  | 309 |
| LEMNELEICHMANIV |  |  |  | 893 | 6 |  |  | 899 |
| ШRPARTNERS III |  |  |  | 481 | 18 |  |  | 499 |
| LONESTAR REALESTATEFUND |  | 481 | 430 |  |  |  |  | 911 |
| LONESTAR V |  | 1,202 | 307 |  |  |  |  | 1,509 |
| LSVASSETMANAGEMENT | 1,294 |  |  |  |  |  |  | 1,294 |
| MFS INSTITUITIONALADVSORS INC | 2,283 |  |  |  |  |  |  | 2,283 |
| MONTREUX PARTNERS IV |  |  |  |  | 69 |  |  | 69 |
| NAUTICPARTNERS |  |  |  | 289 | 1,129 |  |  | 1,418 |
| NEW ATLANTICVENTUREFUNDII |  |  |  | 190 | 119 |  |  | 309 |
| NEW MOUNTAIN III |  |  |  | 590 | 161 |  |  | 751 |
| NORTHPOINTECAPITAL | 122 |  |  |  |  |  |  | 122 |
| OAKHШIII |  |  |  | 1,193 | 1,592 |  |  | 2,785 |
| ONEX PARTNERS III |  |  |  | 404 | 1,229 |  |  | 1,633 |
| PARTNERS SECONDARY |  |  |  |  | 2,045 |  |  | 2,045 |
| PAULCAPITAL |  |  |  |  | 168 |  |  | 168 |
| PENINSULAII |  |  |  | 106 |  |  |  | 106 |
| PINE BROOKII |  |  |  | 848 | 410 |  |  | 1,258 |
| PLARESIDENTIALII |  | 146 |  |  |  |  |  | 146 |
| PLARETAILFUNDI |  | 904 | -490 |  |  |  |  | 414 |
| PLATINUM EQUITY |  |  |  | 324 | 784 |  |  | 1,108 |
| PRISAII |  | 349 |  |  |  |  |  | 349 |
| PYRAMIS GLOBAL | 930 |  |  |  |  |  |  | 930 |
| QUANTUMENERGY |  |  |  | 218 | 77 |  |  | 295 |
| RESOLUTEFUNDIII |  |  |  | 399 | 42 |  |  | 441 |
| ROTHSA-IIDS(FARSIM) |  | 536 | -649 |  |  |  |  | -113 |
| ROTHSCHIDS (FARSV) |  | 902 | 6 |  |  |  |  | 908 |
| RREEF GLOBALOPPORTUNITIES II |  | 716 | 273 |  |  |  |  | 989 |
| SAYBROOK CREDIT OPPORTUNITIES |  |  |  | 590 | 24 |  |  | 614 |
| SILVER LAKES |  |  |  | 432 | 9 |  |  | 441 |
| STATESTREETGLOBALADVSORS | 103 |  |  |  |  |  |  | 103 |
| TCW CREDIT OPPORTUNITIES FUND, LP. |  |  |  |  |  | 424 | 27 | 451 |
| TCW MEIZANINE |  |  |  | 1,324 | 403 |  |  | 1,727 |
| THLEEV |  |  |  | 102 |  |  |  | 102 |
| THECARLYEGROUP |  | 736 | 298 |  |  |  |  | 1,034 |
| TIMES SQUARE CAPITAL | 2,855 |  |  |  |  |  |  | 2,855 |
| TISHMANV FUND |  | 167 | 116 |  |  |  |  | 283 |
| TISHMANVI LP |  | 641 | 341 |  |  |  |  | 982 |
| WARBURG PINCUS $X$ |  |  |  | 556 | 201 |  |  | 757 |
| WAYZATAOPPII |  |  |  |  | 736 |  |  | 736 |
| WEUNGTON MANAGEMENT | 1,491 |  |  |  |  |  |  | 1,491 |
| WESTBROOK REALESTATE VI |  | 659 | 179 |  |  |  |  | 838 |
| YUCAIPAFUNDII |  |  |  | 361 | 417 |  |  | 778 |
| TOTAL | \$39,352 | \$14,537 | \$23,477 | \$13,410 | \$11,250 | \$1,268 | \$831 \$1 | 4,125 |

2009 Gomprebensive Annual Financial Report


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# I nvestment Report 

# U.S. Economy and Capital Markets FY 2008-09 

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

## 3rd Quarter 2008

The economy was negatively impacted by a drop in consumer spending, rising unemployment, falling industrial production and the ongoing housing recession. GDP contracted by $0.3 \%$ for the quarter. The unemployment rate rose to $6.1 \%$ from $5.5 \%$ in the previous quarter. The CPI Index rose by 4.9\% year-over-year. The Fed Funds rate remained unchanged at $2.00 \%$ during the quarter.

The domestic large cap and international equity markets were down sharply for the quarter. The S\&P 500 Index was down $8.4 \%$, ahead of both mid caps and trailing small caps. The S\&P MidCap Index fell $10.9 \%$ during the quarter and the S\&P SmallCap Index declined $0.9 \%$. Value outperformed growth across the cap spectrums. International equity markets were also in negative territory. The MSCI EAFE Index declined 14.4\% for the quarter. The MSCI ACWI ex U.S. Index fell by $21.8 \%$ for the quarter. The UK was down $21.0 \%$ while Germany and France lost 20.6\% and 18.9\% respectively in the developed markets. Emerging markets underperformed their developed market counterparts. The MSCI EM Index appreciated 26.9\%.

The Lehman Brothers Aggregate Index performed better than domestic equity markets and advanced $0.5 \%$ during the quarter. Treasuries outperformed all spread sectors as investors fled to safety and long-term bonds underperformed intermediate term issues. Credit spreads on average widened by 155 basis points for the quarter. Higher-quality issues outperformed lower-quality issues in the investment credit space. Mortgages returned 1.9\% while Treasuries advanced $2.3 \%$.

REITs exhibited positive performance for the quarter; the FTSE NAREIT Index rose 5.6\%. Private real estate fared worse; the NCREIF Property Index was up $0.6 \%$ for the quarter.

## 4th Quarter 2008

The economy ended the year with rapid declines in consumer spending and manufacturing activity, as well as depressed capital markets. The concerns included a frozen housing market, consumers unwilling to spend and an increasing unemployment rates. GDP contracted $3.8 \%$ for the quarter. The unemployment rate rose to $7.2 \%$ from $6.1 \%$ in the third quarter. The CPI index rose by $0.1 \%$ year-over-year. The Fed Funds rate was cut to a range of $0.00 \%$ to $0.25 \%$ during the quarter from $2.00 \%$.

The developed domestic and international equity markets both experienced steep declines for the quarter. The S\&P 500 declined 21.9\% during the fourth quarter, outperforming small caps and mid caps. The S\&P MidCap Index fell $27.3 \%$ while the S\&P SmallCap Index declined 26.1\%. Value significantly outperformed growth across the cap spectrums. International equity markets were also in negative territory. The MSCI EAFE Index declined $19.9 \%$ for the quarter. The MSCI ACWI ex U.S. Index fell by $22.3 \%$. Stocks in the Pacific region outpaced those in Europe in the developed markets. Emerging markets underperformed their developed market counterparts. The MSCI EM Index appreciated 27.6\%.

The Barclays Aggregate Index performed better than the developed equity markets and advanced 4.6\% during the quarter. Longer-term issues

## I nvestment Report

outperformed short-term issues. Higher-quality issues outperformed lower-quality issues in the investment credit space. Mortgages returned 4.3\% during the quarter while Treasuries appreciated $8.8 \%$ during the quarter.

REITs exhibited significantly negative performance; the FTSE NAREIT Index declined $38.8 \%$ for the quarter. Private real estate fared considerably better; the NCREIF Property Index was down $0.2 \%$ for the quarter.

## 1st Quarter 2009

Economic conditions continued to be weak during the first quarter due to depressed housing prices, continued weakness in consumer spending and rising unemployment rates, although nascent 'green shoots' began to appear in various markets and the capital markets exhibited continued volatility. GDP contracted $6.1 \%$ for the quarter. The unemployment rate rose to $8.1 \%$ from $7.2 \%$ in the fourth quarter. The CPI Index contracted $0.4 \%$ year-over-year. The Fed Funds rate was left unchanged with a range of $0.00 \%$ to $0.25 \%$ while quantitative easing continued.

The equity markets had a poor quarter domestically and internationally, although rebounded in March. The S\&P 500 declined 11.0\% during the first quarter, underperforming mid caps and outperforming small caps. The S\&P MidCap Index fell $8.6 \%$ while the S\&P SmallCap Index declined $16.8 \%$. Growth outperformed value across the cap spectrums. International equity markets were also in negative territory. The MSCI EAFE Index declined 13.8\% for the quarter. The MSCI ACWI ex U.S. Index fell by 10.7\%. Eastern Europe exhibited considerable weakness among developed markets. Emerging markets fared better than their developed counterparts. The MSCI EM Index rose $0.9 \%$ for the quarter.

The Barclays Aggregate Index performed better
than equity markets and advanced $0.1 \%$ during the quarter. Longer-term issues outperformed shorterterm issues. Lower-quality issues outperformed higher-quality issues in the investment credit space as high yield rallied. Mortgages returned 2.2\% while Treasuries fell by $1.3 \%$.

REITs posted negative returns in the second quarter; the FTSE NAREIT Index declined 31.9\%. Private real estate fared much better; the NCREIF Property Index was down 7.3\%.

## 2nd Quarter 2009

The economy saw continued weakness in the second quarter with unemployment rate still rising, anemic economic growth and real estate prices still seeking a bottom although capital markets had a significant rally on the back of liquidity infusions and fiscal stimulus. GDP contracted $1.0 \%$ for the quarter. The unemployment rate rose from $8.1 \%$ in the first quarter to $9.3 \%$. The CPI Index declined $1.4 \%$ year-over-year. The Fed Funds rate was left unchanged with a range of $0.00 \%$ to $0.25 \%$ while quantitative easing continued.

Domestic equity experienced a strong rally in the second quarter, continuing on a rally that began in March. The S\&P 500 Index rose $15.9 \%$ for the quarter. Large cap stocks underperformed both mid and small caps. The S\&P 400 MidCap Index returned $18.7 \%$ and the S\&P 600 SmallCap Index gained $21.1 \%$. Value outperformed growth across the cap spectrums. International equity markets also had a strong rally. The MSCI EAFE Index returned $25.4 \%$ for the quarter. The MSCI ACWI ex U.S. Index rose by $27.6 \%$ with Asia being the strongest region of the developed markets. Emerging markets outpaced their developed counterparts. The MSCI EM Index rose $34.7 \%$ in U.S. dollar terms.

The Barclays Aggregate Index rose 1.8\% during the second quarter. Longer-term issues outper-

## I nvestment Report

formed shorter-term issues. Lower-quality issues outperformed higher-quality issues in the investment credit space. Mortgages gained $0.7 \%$ while Treasuries fell $3.0 \%$ during the quarter.

REITs struggled in the second quarter; the FTSE NAREIT Index rose $28.9 \%$. Private real estate fared worse; the NCREIF Property Index increased by 7.3\%.

## 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, 2009, the ASRS asset allocation policy targets and ranges are as follows:

| U.S. Equity | $45 \%(35-55 \%)$ |
| :--- | :---: |
| U.S. Fixed Income | $26 \%(16-36 \%)$ |
| International Equity | $18 \%(8-28 \%)$ |
| Real Estate | $6 \%(4-8 \%)$ |
| Private Equity | $5 \%(3-7 \%)$ |

Additionally, the ASRS asset allocation includes Opportunistic Asset Classes and Absolute Return Strategies each of which have a $0 \%$ target allocation and ranges of 0-5\%.

## 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 93 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.

## I nvestment Results Summary

For the Fiscal Year Ended June 30, 2009, the ASRS posted an $18.1 \%$ loss, which underperformed the ASRS actuarial assumed investment rate of return of $8 \%$ by $26.1 \%$. NOTE: Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 or 2009.

## I nvestment Results

## Performance Accounting/ Computation Standards

The ASRS investment performance rates of return are calculated on a total return basis, using timeweighted 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* <br> (Retirement $\mathcal{F} H B S$ )

|  |  |  |  | Inception |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| ASRS Total Fund | $\mathbf{1}$ Year | $\mathbf{3}$ Year | $\mathbf{5}$ Year | $\mathbf{1 0}$ Year | June 30, 1975 |
| ASRS Domestic Equity | $-18.1 \%$ | $-3.8 \%$ | $1.2 \%$ | $1.9 \%$ | $9.5 \%$ |
| S\&P Custom Index | $-25.3 \%$ | $-7.8 \%$ | $-1.4 \%$ | $-1.0 \%$ |  |
| ASRS Domestic Fixed Income | $-26.2 \%$ | $-7.8 \%$ | $-2.0 \%$ | $-2.1 \%$ |  |
| BC Aggregate Index | $6.1 \%$ | $6.3 \%$ | $5.0 \%$ | $6.0 \%$ |  |
| ASRS International Equity | $6.1 \%$ | $6.4 \%$ | $5.0 \%$ | $6.0 \%$ |  |
| MSCI Custom Index | $-28.3 \%$ | $-6.5 \%$ | $2.4 \%$ | $2.9 \%$ |  |
| ASRS Real Estate | $-30.5 \%$ | $-5.4 \%$ | $4.2 \%$ | $2.3 \%$ |  |
| NPI + 100 Index | $-36.7 \%$ | $-8.3 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |  |
|  | $-13.7 \%$ | $5.2 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |  |

## Historical Rates of Return*

(Retirement $\mathcal{F} H B S$ )

| Fiscal Year | Return | Fiscal Year | Return | Fiscal Year | Return |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $2008-09$ | $-18.10 \%$ | $2000-01$ | $-6.70 \%$ | $1992-93$ | $16.74 \%$ |
| $2007-08$ | $-7.60 \%$ | $1999-00$ | $10.00 \%$ | $1991-92$ | $14.62 \%$ |
| $2006-07$ | $17.80 \%$ | $1998-99$ | $16.80 \%$ | $1990-91$ | $7.99 \%$ |
| $2005-06$ | $9.80 \%$ | $1997-98$ | $21.30 \%$ | $1989-90$ | $9.52 \%$ |
| $2004-05$ | $8.50 \%$ | $1996-97$ | $20.60 \%$ | $1988-89$ | $14.33 \%$ |
| $2003-04$ | $17.50 \%$ | $1995-96$ | $16.70 \%$ | $1987-88$ | $3.10 \%$ |
| $2002-03$ | $2.40 \%$ | $1994-95$ | $17.78 \%$ | $1986-87$ | $11.80 \%$ |
| $2001-02$ | $-8.20 \%$ | $1993-94$ | $1.89 \%$ | $1985-86$ | $31.50 \%$ |
|  |  |  |  |  |  |

[^3]
## I nvestment Results

## Monthly Returns*

(Retirement $\mathcal{O}^{\circ} H B S$ )

|  | Total Fund | US Equity | Fixed Inc | Intl Equity |
| ---: | ---: | ---: | ---: | ---: |
| $7 / 31 / 2008$ | $-0.98 \%$ | $-0.73 \%$ | $-0.19 \%$ | $-2.49 \%$ |
| $8 / 31 / 2008$ | $0.45 \%$ | $1.80 \%$ | $0.51 \%$ | $-3.46 \%$ |
| $9 / 30 / 2008$ | $-7.67 \%$ | $-9.15 \%$ | $-1.37 \%$ | $-13.89 \%$ |
| $10 / 31 / 2008$ | $-13.25 \%$ | $-17.70 \%$ | $-3.02 \%$ | $-20.61 \%$ |
| $11 / 30 / 2008$ | $-4.10 \%$ | $-7.87 \%$ | $1.76 \%$ | $-5.65 \%$ |
| $12 / 31 / 2008$ | $3.30 \%$ | $2.51 \%$ | $3.99 \%$ | $7.46 \%$ |
| $1 / 31 / 2009$ | $-5.48 \%$ | $-8.03 \%$ | $-0.44 \%$ | $-8.81 \%$ |
| $2 / 28 / 2009$ | $-6.70 \%$ | $-10.21 \%$ | $-0.62 \%$ | $-9.95 \%$ |
| $3 / 31 / 2009$ | $4.52 \%$ | $8.49 \%$ | $1.56 \%$ | $6.86 \%$ |
| $4 / 30 / 2009$ | $7.71 \%$ | $11.29 \%$ | $1.61 \%$ | $12.78 \%$ |
| $5 / 31 / 2009$ | $4.56 \%$ | $4.63 \%$ | $1.46 \%$ | $11.81 \%$ |
| $6 / 30 / 2009$ | $-0.01 \%$ | $0.39 \%$ | $0.91 \%$ | $-0.72 \%$ |

## Net I ncome from Investments

(Dollars in Millions)


[^4] 2008 or 2009.

## I nvestment Results

## Ten Year Review of I nvestment I ncome

(Dollars in Thousands)

| Fiscal |  | Market Appreciation |  | Net Income from |
| :---: | :---: | :---: | :---: | :---: |
| Year | I nvest I ncome | + (Depreciation) | - Invest Expense = | I nvestments |
| 1999-00 | 416,594 | 1,625,595 | 28,273 | 2,013,916 |
| 2000-01 | 527,329 | $(2,038,932)$ | 27,525 | $(1,539,128)$ |
| 2001-02 | 485,535 | $(2,228,394)$ | 25,218 | $(1,768,077)$ |
| 2002-03 | 442,870 | $(51,437)$ | 22,801 | 368,632 |
| 2003-04 | 447,623 | 2,811,047 | 29,885 | 3,228,785 |
| 2004-05 | 454,389 | 1,382,587 | 33,584 | 1,803,392 |
| 2005-06 | 523,997 | 1,758,899 | 51,957 | 2,230,939 |
| 2006-07 | 604,320 | 3,766,089 | 59,891 | 4,310,518 |
| 2007-08 | 654,878 | $(2,645,900)$ | 81,419 | $(2,072,441)$ |
| 2008-09 | 285,665 | $(4,855,030)$ | 104,125 | $(4,673,490)$ |

## Asset Allocation

## Schedule Of I nvestments

(Dollars in Thousands)

|  | I nvestments at Fair Value | Receivables | Payables | Total | \% of Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Temporary Investments | \$1,166,821 | \$855,421* | \$1,122,425** | \$899,817 | 4.3\% |
| Temporary Investments from |  |  |  |  |  |
| Securities Lending | 3,422,623 | - | 3,422,623 | - | 0.0\% |
| Corporate Equity Securities | 13,585,616 | - | - | 13,585,616 | 64.8\% |
| Fixed Income Securities: |  |  |  |  |  |
| Corporate Debt Securities | 2,531,025 | - | - | 2,531,025 | 12.1\% |
| U.S. Treasury \& Government |  |  |  |  |  |
| Securities | 2,904,489 | - | - | 2,904,489 | 13.9\% |
| Real Estate Investments | 577,792 | 1,323 | - | 579,115 | 2.8\% |
| Private Equity Investments | 276,922 | 387 | - | 277,309 | 1.3\% |
| Opportunistic Investments | 176,367 | - | - | 176,367 | 0.8\% |
| Total Investments | \$24,641,655 | \$857,131 | \$4,545,048 | \$20,953,738 | 100.0\% |


| * Receivables Include: |  | ** Payables Include: |  |
| :--- | ---: | :--- | ---: |
| Accrued Interest \& Dividends | $\$ 61,509$ | Payable for Securities Purchased | $\$ 522,560$ |
| Securities Sold | 231,792 | Forward Contract Payable | 561,084 |
| Forward Contracts Receivables | 562,074 | Other Payables | 38,781 |
| Other Receivables | 46 |  |  |
| Total | $\boxed{\$ 855,421}$ | Total |  |
|  |  |  | $\mathbf{\$ 1 , 1 2 2 , 4 2 5}$ |

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

## Equity Portfolio Profile

## Equity Sub-Sector Allocation

(Dollars in Thousands)

|  | Percent of Fund | Fair Market Value |
| :---: | :---: | :---: |
| US Large Cap Equity | 33.35\% | \$7,004,460 |
| US Mid Cap Equity | 9.08\% | 1,906,508 |
| US Small Cap Equity | 8.60\% | 1,805,770 |
| Total US Equity | 51.03\% | 10,716,738 |
| I nternational Equity | 13.66\% | 2,868,878 |
| Total Equity | 64.69\% | \$13,585,616 |

## Ten Largest Domestic Equity Holdings

\% Of Domestic Equity Portfolio

| EXXON MOBIL CORP | $2.15 \%$ |
| :--- | :--- |
| MI CROSOFT CORP COM | 0.94 |
| JOHNSON \& J OHNSON COM | 0.92 |
| PROCTER \& GAMBLE CO COM | 0.86 |
| IBM CORP COM | 0.84 |
| AT \& T INC COM | 0.79 |
| CHEVRON CORPORATION COM | 0.74 |
| APPLE INC | 0.70 |
| JPMORGAN CHASE \& CO COM | 0.68 |
| PFIZER INC | 0.60 |
| Total | $\mathbf{9 . 2 2 \%}$ |

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

## Equity Portfolio Profile

## Distribution by Market Sector

FINANCIALS<br>HEALTHCARE<br>UTILITIES<br>CONSUMER DISCRETIONARY<br>CONSUMER STAPLES<br>ENERGY<br>INFORMATION TECHNOLOGY<br>MATERIALS<br>TELECOMMUNICATION SVCS<br>INDUSTRIALS

ASRS Domestic Equity
S\&P 500 I ndex
14.05\%
13.59\%
14.48 3.95
13.97
11.51
4.09
9.52
.96
10.66
11.97
17.82
3.76
2.40
11.85
12.42
18.40
3.23
3.54
9.83

Total

## Ten Largest International Equity Holdings

NESTLE SA
SANOFI-AVENTIS
TELEFONICA SA
ROCHE HOLDINGS
ASTRA ZENECA
DEUTHSCHE TELECOM
HSBC HOLDINGS
RECKITT BENCKISER GROUP PLC
UNILEVER
ROHM CO

Total
\% Of International Equity Portfolio
1.35\%
1.06
1.06
1.02
1.00
0.99
0.95
0.90
0.88
0.81
10.02\%

## Summary of Broker Commissions

|  | Commission |
| :--- | :--- |
| Domestic Equity | $\$ 4,348,155$ |
| International Equity | $\$ 1,953,643$ |

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

# Fixed Income Portfolio Profile 

## Distribution By Sector

|  | Percent |
| :--- | ---: |
| Asset Backed Securities | $2.6 \%$ |
| Commercial Mortgage Backed | $8.4 \%$ |
| Corporate Bonds | $32.5 \%$ |
| Government Agencies CMOs | $0.3 \%$ |
| Government Bonds (Treasury/Agency) | $22.0 \%$ |
| Government Mortgage Backed | $30.6 \%$ |
| Non-Government Backed CMOs | $3.6 \%$ |
|  |  |
| TOTAL | $\mathbf{1 0 0 . 0} \%$ |

## Distribution By Coupon

|  | Percent |
| :--- | ---: |
| $0.00 \%-6.5 \%$ | $84.9 \%$ |
| $6.51 \%-7.50 \%$ | $8.9 \%$ |
| $7.51 \%-9.0 \%$ | $4.8 \%$ |
| $>9.00 \%$ | $1.4 \%$ |
| TOTAL |  |

## Distribution By Maturity

|  | Percent |
| :--- | ---: |
| $0-2$ years | $7.3 \%$ |
| 2 to 3 years | $8.6 \%$ |
| 3 to 4 years | $5.5 \%$ |
| 4 to 5 years | $6.9 \%$ |
| 5 to 6 years | $3.6 \%$ |
| 6 to 8 years | $5.2 \%$ |
| > 8 years | $62.9 \%$ |
|  |  |
| TOTAL | $\mathbf{1 0 0 . 0 \%}$ |

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

# Fixed Income Portfolio Profile 

## Ten Largest Domestic Fixed Income Holdings

(Dollars in Thousands)

|  | Coupon | Maturity | Par Value | Fair <br> Market Value | Percent |
| :--- | ---: | ---: | ---: | ---: | ---: |

## Real Estate Portfolio Profile

## Ten Largest Real Estate Managers

(Dollars in Thousands)

| LONE STAR FUND VI | $\$ 62,464$ |
| :--- | ---: |
| PLA RETAIL FUND I | 55,136 |
| ROTHCHILDS (FARS IV) | 54,215 |
| CIM URBAN REIT | 49,569 |
| ASRS OWNED/ OCCUPIED REAL ESTATE | 42,612 |
| PRISA II | 37,570 |
| THE CARLYLE GROUP | 33,810 |
| RREEF GLOBAL OPPORTUNITIES FUND II | 30,688 |
| PLA RESIDENTIAL II | 26,203 |
| DUNE REAL ESTATE FUND | $\mathbf{2 1 , 8 2 7}$ |
| Total | $\mathbf{\$ 4 1 4 , 0 9 4}$ |

\% of Real
Estate Portfolio

$10.80 \%$
$9.53 \%$
$9.38 \%$
$8.57 \%$
$7.37 \%$
$6.50 \%$
$5.85 \%$
$5.31 \%$
$4.53 \%$
$3.77 \%$

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

## Private Equity Portfolio Profile

## Ten Largest Private Equity Managers

(Dollars in Thousands)

|  | Fair Market <br> Value | \% of Private <br> Equity Portfolio |
| :--- | ---: | ---: |
| WAYZATA OPP II | $\$ 29,634$ | $10.70 \%$ |
| TH LEE VI LP | 22,482 | $8.12 \%$ |
| FI RST RESERVE XII | 17,971 | $6.49 \%$ |
| OAKHILL III | 16,664 | $6.02 \%$ |
| PAUL CAPITAL IX LP | 15,553 | $5.62 \%$ |
| TCW MEZZANINE | 13,767 | $4.97 \%$ |
| YUCAIPA FUND II | 13,695 | $4.95 \%$ |
| PARTNERS SECONDARY | 12,917 | $4.66 \%$ |
| WARBURG PINCUS X | 12,625 | $4.56 \%$ |
| PLATINUM EQUITY | 10,897 | $3.94 \%$ |
| Total | $\mathbf{\$ 1 6 6 , 2 0 5}$ | $\mathbf{6 0 . 0 3 \%}$ |

## Opportunistic Portfolio Profile

## Largest Opportunistic I nvestment Managers

(Dollars in Thousands)

|  | Fair Market <br> Value | \% of Opportunistic <br> Portfolio |
| :--- | ---: | :---: |
| TCW CREDIT OPPORTUNITIES FUND, L.P. | $\$ 80,468$ | $45.62 \%$ |
| BLACKROCK CREDIT INVESTORS II, L.P. | 49,787 | $28.23 \%$ |
| BLACKROCK MORTGAGE INVESTORS, L.P. | 46,112 | $26.15 \%$ |
| Total | \$176,367 | $\mathbf{1 0 0 . 0 0 \%}$ |

[^5]
# Schedule of Broker Commissions Domestic Equity Trades 

| Domestic Broker Name | Total Dollar Amount of Trades | Number of Shares | Average Commission Per Share | Commission |
| :---: | :---: | :---: | :---: | :---: |
| INVESTMENT TECHNOLOGY GROUP | \$1,429,635,267 | 64,983,610 | 0.01 | \$513,182 |
| CREDIT SUISSE | 584,657,811 | 27,928,652 | 0.01 | 328,037 |
| CITIGROUP GLOBAL MARKETS | 457,352,674 | 19,311,591 | 0.01 | 220,716 |
| JEFFERIES \& CO INC | 240,123,038 | 7,614,279 | 0.02 | 153,973 |
| BARCLAYS CAPITAL | 234,529,587 | 11,533,528 | 0.01 | 143,197 |
| LEHMAN BROS INC | 231,861,374 | 6,540,800 | 0.01 | 73,990 |
| INSTINET CORP | 209,271,740 | 11,171,613 | 0.01 | 166,356 |
| CAP INSTL SVCS INC-EQUITIES | 190,317,507 | 8,130,962 | 0.01 | 119,034 |
| DEUTSCHE BANK SECS INC | 182,873,881 | 6,002,573 | 0.03 | 150,182 |
| LIQUIDNET INC | 154,347,786 | 6,960,508 | 0.02 | 145,130 |
| MERRILL LYNCH PIERCE FENNER SMITH INC | 149,983,036 | 6,018,033 | 0.01 | 77,733 |
| WEEDEN \& CO | 147,063,262 | 5,636,662 | 0.02 | 106,260 |
| UBS SECURITIES LLC | 144,736,853 | 5,838,545 | 0.02 | 103,656 |
| GOLDMAN SACHS \& CO | 119,022,807 | 3,836,067 | 0.03 | 115,106 |
| BNY CONVERGEX | 106,534,806 | 3,904,164 | 0.02 | 86,711 |
| ROSENBLATT SECURITIES LLC | 89,573,420 | 2,455,804 | 0.02 | 47,094 |
| BARCLAYS CAPITAL INC | 82,675,546 | 942,800 | 0.00 | 2,828 |
| MORGAN STANLEY \& CO INC | 74,812,681 | 3,173,594 | 0.03 | 90,417 |
| MORGAN J P SECS INC | 70,671,523 | 2,632,228 | 0.04 | 109,447 |
| FIDELITY CAP MKTS (DIV OF NFSC) | 49,201,778 | 1,702,315 | 0.04 | 66,694 |
| WELLS FARGO SECURITIES LLC | 43,267,827 | 1,790,131 | 0.05 | 82,620 |
| THOMAS WEISEL PARTNERS | 40,229,204 | 1,633,796 | 0.04 | 65,924 |
| OPPENHEIMER \& CO INC | 39,886,769 | 1,694,629 | 0.05 | 79,424 |
| BAIRD, ROBERT W \& CO INC | 39,575,128 | 1,609,377 | 0.04 | 70,875 |
| WILLIAM BLAIR \& CO | 36,320,677 | 1,229,569 | 0.04 | 54,649 |
| GUZMAN \& CO | 36,182,610 | 1,250,326 | 0.01 | 18,090 |
| GOLDMAN SACHS EXECUTION \& CLEARING | 35,528,371 | 1,666,746 | 0.01 | 17,406 |
| STIFEL NICOLAUS | 30,851,812 | 1,273,880 | 0.05 | 59,638 |
| BNY CONVERGEX | 30,653,551 | 1,442,018 | 0.04 | 60,451 |
| CANTOR FITZGERALD \& CO INC | 29,160,657 | 1,334,094 | 0.03 | 45,805 |
| PIPER JAFFRAY \& CO | 29,083,824 | 1,379,919 | 0.05 | 63,351 |
| PULSE TRADING LLC | 28,397,821 | 1,301,462 | 0.02 | 32,066 |
| COWEN AND COMPANY LLC | 25,509,371 | 920,247 | 0.04 | 38,079 |
| RAYMOND JAMES \& ASSOC INC | 25,151,825 | 866,614 | 0.04 | 38,621 |
| JNK SECURITIES INC | 23,764,531 | 928,630 | 0.01 | 9,732 |
| KEYBANC CAPITAL MARKETS INC | 21,888,906 | 707,006 | 0.04 | 31,561 |
| RBC CAPITAL MARKETS CORP | 20,314,962 | 658,541 | 0.04 | 27,406 |

# Schedule of Broker Commissions Domestic Equity Trades 

| Domestic Broker Name | Total Dollar Amount of Trades | Number of Shares | Average Commission Per Share | Commission |
| :---: | :---: | :---: | :---: | :---: |
| BERNSTEIN SANFORD C \& CO | 20,239,003 | 866,174 | 0.02 | 17,734 |
| BANC OF AMERICA SECS LLC | 18,788,022 | 690,496 | 0.04 | 26,217 |
| NUTMEG SECURITIES | 17,357,818 | 736,116 | 0.03 | 18,776 |
| SUNTRUST CAPITAL MARKETS INC | 16,988,028 | 748,286 | 0.04 | 32,294 |
| KEEFE BRUYETTE AND WOODS | 16,370,303 | 671,635 | 0.05 | 30,409 |
| KNIGHT SEC BROADCORT | 16,125,326 | 665,884 | 0.03 | 18,577 |
| STEPHENS INC | 14,311,745 | 629,599 | 0.04 | 27,275 |
| BARCLAYS CAPITAL INC. | 14,154,261 | 641,300 | 0.04 | 25,944 |
| BAYPOINT TRADING LLC | 12,813,584 | 675,470 | 0.04 | 27,869 |
| BOENNING \& SCATTERGOOD | 12,663,312 | 291,550 | 0.02 | 7,057 |
| CANACCORD ADAMS INC | 12,433,289 | 526,431 | 0.04 | 21,650 |
| FOX PITT KELTON INC | 12,116,035 | 374,984 | 0.04 | 15,453 |
| BNY ESI \& CO INC | 11,159,711 | 854,600 | 0.05 | 42,730 |
| BMO CAPITAL MARKETS CORP | 10,802,337 | 438,071 | 0.05 | 21,218 |
| OTHER | 273,243,126 | 11,292,410 | 0.04 | 399,511 |
| GRAND TOTAL | \$5,964,580,123 | 248,108,319 |  | \$4,348,155 |

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

# Schedule of Broker Commissions Foreign Equity Trades 

## Domestic Broker Name

GOLDMAN SACHS \& CO UBS EQUITIES
MORGAN STANLEY \& CO INC CREDIT SUISSE
MERRILL LYNCH INTL LONDON EQUITIES
CANTOR FITZGERALD EUROPE
CITIGROUP GLOBAL MARKETS LTD
MERRILL LYNCH PIERCE FENNER
UBS WARBURG ASIA LTD
MERRILL LYNCH PIERCE FENNER SMITH INC
CREDIT AGRICOLE
INSTINET EUROPE LIMITED
CREDIT LYONNAIS SECS
CALYON SECURITIES
DEUTSCHE BK SECS INC
J P MORGAN SECS LTD
ITG (EUROPE) LTD
SG SEC (LONDON) LTD
CITIGROUP GLOBAL MARKETS U.K.
BNP PARIBAS SEC SVCS
DAIWA SECS AMER INC
EXANE
CREDIT SUISSE (EUROPE)
NOMURA SECS INTL
DEUTSCHE BANK INTL EQ
MORGAN STANLEY \& CO INC
JPMORGAN CAZENOVE LIMITED
GOLDMAN SACHS INTL
SANFORD C BERNSTEIN \& CO INC
BROCKHOUSE AND COOPER
CITIGROUP GLOBAL MKTS INC
NOMURA SECS INTL INC
CITIGROUP GBL MKTS/SALOMON
PERSHING LLC
JP MORGAN SECS ASIA PACIFIC
CREDIT SUISSE (HK) LIMITED
HSBC SECS INC
BERENBERG GOSSLER \& CIE
JEFFERIES \& CO INC
OTHER

Total Dollar
Amount of Trades
\$118,026,048
96,316,185
94,078,814
80,990,400
72,097,055
65,070,774
53,439,354
48,848,804
46,496,171
43,096,276
40,880,352
40,524,650
39,331,813
38,460,875
36,899,235
34,362,751
33,049,647
32,881,381
31,171,674
30,040,030
27,644,239
27,399,653
25,952,725
24,284,078
23,028,307
22,117,129
21,382,480
20,911,612
19,871,227
19,773,301
17,135,627
13,984,823
13,920,478
12,767,010
12,760,131
11,782,555
11,578,665
11,304,475
11,272,403
233,646,835

Number of Shares

Average Commission Per Share Commission

| $36,343,144$ | 0.00 | $\$ 157,508$ |
| ---: | ---: | ---: |
| $12,517,548$ | 0.01 | 131,146 |
| $10,018,356$ | 0.01 | 145,988 |
| $5,164,369$ | 0.02 | 99,045 |
| $6,234,528$ | 0.02 | 106,429 |
| $25,690,504$ | 0.00 | 25,980 |
| $9,385,750$ | 0.01 | 68,835 |
| $5,928,159$ | 0.01 | 56,756 |
| $6,090,323$ | 0.01 | 69,119 |

52,565
20,664
65,018
82,134
57,568
45,920
13,588
50,830
39,075
54,126
5,607
46,839
25,825
3,960
19,604
3,889
8,542
21,235
33,087
13,289
32,515
14,323
13,525
13,871
12,473
11,341
11,706
4,522
14,926
272,503

## \$1,953,643

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

## Schedule of Investment Fees

## Equity and Fixed Income - Excluding Securities Lending <br> (Dollars in Thousands)

| ASRS INTERNAL | $\$ 9,054,994$ | $\$-$ |
| :--- | ---: | ---: |
| AXA ROSENBERG | 187,577 | 1,514 |
| BARCLAYS GLOBAL INVESTORS | $1,935,913$ | 2,932 |
| BLACKROCK FINANCIAL | $1,051,000$ | 1,957 |
| BRANDES INVESTMENTS | 962,751 | 4,132 |
| BRIDGEWATER ASSET | $1,590,055$ | 6,651 |
| CHAMPLAIN INVESTMENT | 99,499 | 1,061 |
| COPPER ROCK CAPITAL | 60,985 | 495 |
| CRAMER ROSENTHAL MCGYNN | 101,594 | 550 |
| DEUTSCHE INVESTMENT MANAGEMENT | 367,845 | 2,171 |
| DIMENSIONAL FUND ADVISORS | 463,504 | 1,599 |
| EUROPEAN INVESTMENT | 39,889 | 251 |
| GUGGENHEIM PARTNERS ASSET MANAGEMENT | 138,800 | 459 |
| HANSBEGER GLOBAL | 528,644 | 1,839 |
| HYPERION BROOKFIELD ASSET MANAGEMENT | 121,695 | 420 |
| INSTITUTIONAL SHAREHOLDER SVCS INC | 0 | 47 |
| INTECH | 581,666 | 2,214 |
| IRONBRIDGE CAPITAL | 116,320 | 821 |
| JACOBS LEVY | 129,567 | 650 |
| JP MORGAN INVESTMENT | 0 | 202 |
| LASALLE INVESTMENT | 43,730 | 309 |
| LSV ASSET MANAGEMENT | 410,510 | 1,294 |
| MFS INSTITUITIONAL ADVISORS INC | 670,310 | 2,283 |
| NORTHPOINTE CAPITAL | 0 | 122 |
| PYRAMIS GLOBAL | 509,555 | 930 |
| STATE STREET GLOBAL ADVISORS | 399,759 | 103 |
| TIMES SQUARE CAPITAL | 340,734 | 2,855 |
| WELLINGTON MANAGEMENT | 281,055 | 1,491 |
| TOTAL |  |  |

## Schedule of I nvestment Fees

## Real Estate

(Dollars in Thousands)

## Net Assets Managed at Fair Value

| AEW VALUE INVESTORS FUND II, LP | $\$ 10,757$ | 270 |
| :--- | ---: | ---: |
| AIG ASIAN FUND | 4,053 | 570 |
| ASRS INTERNAL | 42,113 | 20,305 |
| BREP VI (Blackstone) | 11,660 | $-149 *$ |
| CAPMARK III | 19,681 | 2,827 |
| CBRE OPPORTUNITIES FUND V | 9,297 | 593 |
| CBRE VALUE FUND V | 2,003 | 175 |
| CIM FUND III LP | 648 | 399 |
| CIM URBAN REIT | 49,569 | 539 |
| COLONY INVESTORS | 9,204 | 967 |
| DUNE REAL ESTATE FUND | 21,827 | 753 |
| DUNE REAL ESTATE FUND II | 2,975 | 1,242 |
| FIVE MILE CAP II | 19,686 | 1,102 |
| HEITMAN | 12,348 | 91 |
| HINES CORE | 9,986 | 80 |
| LONE STAR REAL ESTATE FUND | 12,451 | 911 |
| LONE STAR VI | 62,464 | 1,509 |
| PLA RESIDENTIAL II | 26,203 | 146 |
| PLA RETAIL FUND I | 55,136 | 414 |
| PRISA II | 37,570 | 349 |
| ROTHSCHI LDS (FARS IV) | 54,215 | $-113 *$ |
| ROTHSCHILDS (FARS V) | 5,752 | 908 |
| RREEF GLOBAL OPPORTUNITIES II | 30,688 | 989 |
| THE CARLYLE GROUP | 33,810 | 1,034 |
| TISHMAN VI FUND | 13,372 | 283 |
| TISHMAN VII LP | 3,989 | 982 |
| WESTBROOK REAL ESTATE VII | 16,335 | 838 |
| TOTAL |  | $\$ \mathbf{3 7 7 , 7 9 2}$ |

[^6]
## Schedule of Investment Fees

## Private Equity

(Dollars in Thousands)

## Net Assets <br> Managed at Fair Value

ACCEL-KKR III
ALAS VENTURE
APOLLO FUND VII
BRIDGEPOINT IV
CMEA VENTURE
CROWN EUROPEAN OPP FUND I

CVC EUROPEAN V
FIRST RESERVE XII
IDG VENTURES
JLL PARTNERS FUND VI
LEVINE LEICHMAN IV
LLR PARTNERS III
MONTREUX PARTNERS IV
NAUTIC PARTNERS
NEW ATLANTIC VENTURE FUND II
NEW MOUNTAIN III
OAKHILL III
ONEX PARTNERS III
PARTNERS SECONDARY
PAUL CAPITAL
PENINSULA II
PINE BROOK II
PLATINUM EQUITY
QUANTUM ENERGY
RESOLUTE FUND III
SAYBROOK CREDIT OPPORTUNITIES
SILVER LAKES
TCW MEZZANINE
TH LEE VI
WARBURG PINCUS X
WAYZATA OPP II
YUCAIPA FUND II

TOTAL

Management \& Other Fees
$\begin{array}{lrr}\$ \quad 7,503 & \$ & 698 \\ 1,006\end{array}$
6,433 799
1,661 929
3,358 221
3,767 543
5,675 728
17,971 356
$2,018 \quad 219$
10,874 1,166
4,838 899
6,249 499
2,195 69
9,737 1,418
1,312 309
8,974 751
16,664 2,785
2,003 1,633
12,917 2,045
15,553 168
2,976 106
9,782 1,258
10,897 1,108
2,747 295
8,427 441
4,344 614
4,838 441
13,767 1,727
22,482 102
12,625 757
29,634 736
13,695 778
$\$ 276,922 \quad \$ 24,660$

2 OO9 Comprebensive Annual Financial Report

## Schedule of I nvestment Fees

## Opportunistic

(Dollars in Thousands)

## Net Assets Managed at Fair Value

BLACKROCK CREDIT INVESTORS II, L.P. BLACKROCK MORTGAGE INVESTORS, L.P.
TCW CREDIT OPPORTUNITIES FUND, L.P.

TOTAL
\$ 49,787
46,112
80,468
\$176,367

Management \& Other Fees
\$ 211
1,437
451
\$2,099
|
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SECTION

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## Actuarial Certification - Plan and HBS

## 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, 2008. 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 523,257 members $-226,415$ active members, 203,204 inactive members, and 88,956 retired members and beneficiaries, and 4,882 members on long term disability. In addition, there are 604 System retirees receiving ad hoc benefits from Plan assets.

The actuarial calculations establish a total benefit cost of $18.00 \%$ of the annual compensation of members. The total normal cost rate is $12.90 \%$ of compensation, and the required amortization payment determined in accordance with Section 38-737 is 5.10\% of compensation.

## Actuarial Valuation of the Plan as of J une 30, 2008

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 Actuary 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 Number 25 and 43 (GASB Nos. 25 and 43), and it summarizes census data.

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

## Funding Objectives

The actuarial valuation calculates the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to provide for the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the period specified in the statutes. The rate calculated becomes effective for the next fiscal year. For example, the rate calculated in June 30, 2008, valuation report ( $9.00 \%$ for each member and each employer) is applicable for the fiscal year beginning July 1 , 2009.

## Actuarial Certification - Plan and HBS

## Funding Progress

The 2007 valuation determined the rate for fiscal 2009 as $8.95 \%$. The 2008 valuation calculates a rate of $9.00 \%$ to become effective July 1, 2009. 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. Legislation exempted ASRS from unclaimed property statutes.
2. ASRS must engage with and potentially divest from companies that have invested in Iran's petroleum energy sector or that meet the specific Sudan-related business operations criteria.
3. Legislation allowed voluntary transfers for retired and disabled members and restricted transfers that are mandated by either statute or an employer.
4. Transfer out bills expanded the ASRS credited service that a dispatcher may transfer to CORP and extended the timeframe for ASRS to transfer assets.
5. A plan administration bill modified one of the salary calculations used for service purchases, granted the ASRS Board rulemaking authority over the Plan, LTD program and transfers, clarified that a member who purchases forfeited service credit is subject to the benefit structure in place when the member becomes a member again, and required ASRS to recover overpayments by reducing benefits owed to a member, beneficiary, or alternate payee.
6. Legislature made changes to comply with federal laws and IRS regulations.

Section 11 gives details of benefit provisions.

## 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 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 .

2009 Comprebensive Annual Financial Report

## Actuarial Certification - Plan and HBS

## Data

ASRS staff supplied census data for retired, active, and inactive participants as of June 30, 2008. 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's Comprehensive Annual Financial Report (CAFR). ASRS also prepared all supporting schedules in the actuarial section of the CAFR.

The actuarial cost factors as of June 30,2008 , for the total Plan are as follows:

1. Actuarial accrued liabilities
A. Liabilities due to member's benefits
2. Active members
a. Retirement benefits
b. Health insurance premium supplement
c. Disability deferred retirement benefits
d. Pre-retirement death benefits
e. Withdrawal benefits
f. Total active members
3. Inactive members
4. Retired members and beneficiaries
5. Disabled members (deferred retirement)
6. Benefit increases for other-than-plan participants
7. Total present value of benefits
B. Other miscellaneous liabilities and reserves
C. Reserve for future PBIs
D. Total actuarial accrued liability
II. Actuarial value of assets
III. Unfunded actuarial accrued liability (Item I - Item II)
IV. Amortization of unfunded actuarial accrued liability (per Section 38-737)
V. Normal cost for the year
VI. Total contribution for the year (Item IV + Item V)
VII. Total covered payroll (projected to 2008/2009 plan year)
VIII. Total contribution for fiscal years 2010 as a percentage of covered payroll
A. Employee Portion
B. Employer Portion
C. Total

401(a) Account

| $\$ 13,143,213,500$ | $\$ 0$ | $\$ 13,143,213,500$ |
| ---: | ---: | ---: |
| 0 | $773,363,955$ | $773,363,955$ |
| $585,789,918$ | 0 | $585,789,918$ |
| $324,689,013$ | 0 | $324,689,013$ |
| $639,834,152$ | 0 | $639,834,152$ |
| $\$ 14,693,526,583$ | $\$ 773,363,955$ | $\$ 15,466,890,538$ |
| $1,373,176,932$ | $53,215,027$ | $1,426,391,959$ |
| $15,847,041,269$ | $579,113,134$ | $16,426,154,403$ |
| $507,777,468$ | $33,756,525$ | $541,533,993$ |
| $2,954,917$ | $6,938,935$ | $9,893,852$ |
| $\$ 32,424,477,169$ | $\$ 1,446,387,576$ | $\$ 33,870,864,745$ |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| $\$ 32,424,477,169$ | $\$ 1,446,387,576$ | $\$ 33,870,864,745$ |
| $26,612,440,139$ | $1,239,385,591$ | $27,851,825,730$ |
| $5,812,037,030$ | $207,001,985$ | $6,019,039,015$ |
| $478,028,422$ | $17,025,499$ | $495,053,921$ |
| $1,205,102,668$ | $46,380,771$ | $1,251,483,439$ |
| $\$ 1,683,131,090$ | $\$ 63,406,270$ | $\$ 1,746,537,360$ |
| $\$ 9,708,352,896$ | $\$ 9,708,352,896$ | $\$ 9,708,352,896$ |


| $9.00 \%$ | $0.00 \%$ | $9.00 \%$ |
| ---: | ---: | ---: |
| $8.34 \%$ | $0.66 \%$ | $9.00 \%$ |
| $17.34 \%$ | $0.66 \%$ | $18.00 \%$ |

## Actuarial Certification - Plan and HBS

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 April 18, 2008, the Board adopted assumptions to be effective for valuations on and after June 30, 2008. These assumptions are as follows:

1. Investment yield $-8 \%$ per annum.
2. Salary increases

| Years of Service | Merit <br> Component | Total Salary 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 |

3. Rates of disability

| Age | Males | Females |
| :---: | :---: | :---: |
| 20 | 0.06\% | 0.07\% |
| 30 | 0.07 | 0.10 |
| 40 | 0.21 | 0.21 |
| 50 | 0.51 | 0.49 |
| 60 | 1.20 | 1.09 |

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

Years of Service - Male Members

| Age | 1 | 2 | 5 | 8 | 10+ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | 36.42\% | 28.95\% | 13.64\% | 7.11\% | 12.77\% |
| 30 | 20.55 | 16.12 | 9.43 | 5.14 | 5.65 |
| 40 | 16.98 | 10.11 | 6.65 | 4.00 | 2.27 |
| 50 | 16.92 | 9.04 | 5.02 | 3.45 | 1.55 |
| 60 | 18.24 | 9.63 | 3.71 | 2.61 | 1.08 |

2009 Gomprebensive Annual Financial Report

## Actuarial Certification - Plan and HBS

| Age | Years of Service - Female Members |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 5 | 8 | 10+ |
| 20 | 30.53\% | 26.40\% | 20.77\% | 13.80\% | 21.48\% |
| 30 | 19.37 | 16.52 | 10.89 | 8.11 | 8.21 |
| 40 | 16.93 | 11.74 | 6.61 | 4.61 | 2.39 |
| 50 | 14.57 | 9.27 | 5.22 | 2.87 | 1.67 |
| 60 | 14.32 | 9.39 | 4.66 | 2.37 | 0.88 |

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

Years of Service - Male Members

| Age | 0 | 2 | 4 | 6 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | 0.00\% | 0.00\% | 0.00\% | 6.66\% | 5.45\% |
| 55 | 0.00 | 0.00 | 0.00 | 5.41 | 4.72 |
| 60 | 0.00 | 0.00 | 0.00 | 7.39 | 6.61 |
| 65 | 26.86 | 14.01 | 7.26 | 13.53 | 12.37 |
| 70 | 29.04 | 16.20 | 9.16 | 13.69 | 12.20 |
| Age | 10-14 | 20-24 | 25 | 30 | 31+ |
| 50 | 4.55\% | 5.55\% | 8.55\% | 19.05\% | 14.05\% |
| 55 | 4.13 | 7.13 | 17.38 | 18.63 | 13.63 |
| 60 | 8.08 | 24.83 | 27.83 | 36.08 | 31.08 |
| 62 | 31.10 | 41.10 | 44.10 | 56.10 | 51.10 |
| 65 | 31.23 | 31.23 | 34.23 | 36.23 | 31.23 |
| 70 | 31.80 | 31.80 | 34.80 | 36.80 | 31.80 |

## Actuarial Certification - Plan and HBS

| Age | Years of Service - Female Members |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 2 | 4 | 6 | 8 |
| 50 | 0.00\% | 0.00\% | 0.00\% | 6.26\% | 4.87\% |
| 55 | 0.00 | 0.00 | 0.00 | 5.84 | 4.48 |
| 60 | 0.00 | 0.00 | 0.00 | 7.57 | 6.37 |
| 65 | 21.72 | 13.39 | 8.47 | 13.49 | 12.57 |
| 70 | 22.16 | 14.99 | 9.22 | 13.63 | 13.11 |
| Age | 10-14 | 20-24 | 25 | 30 | 31+ |
| 50 | 4.67\% | 5.67\% | 8.67\% | 19.17\% | 14.17\% |
| 55 | 4.25 | 7.25 | 17.50 | 18.75 | 13.75 |
| 60 | 7.88 | 24.63 | 27.63 | 35.88 | 30.88 |
| 62 | 30.83 | 40.83 | 43.83 | 55.83 | 50.83 |
| 65 | 30.92 | 30.92 | 33.92 | 35.92 | 30.92 |
| 70 | 31.44 | 31.44 | 34.44 | 36.44 | 31.44 |

Due to the valuation software change in 2007, the retirement rates include both retirement and withdrawal rates.

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. ${ }^{1}$
7. Mortality rates after disability - Post disablement mortality rates are based on experience of other large public sector system and ASRS' own experience. ${ }^{1}$
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. ${ }^{1}$
9. Proportion of Vested Termination Members Who Will Not Withdraw Their Contributions - It is assumed that members who terminate with five or more years of service (but prior to eligibility for retirement) 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 with less than five years of service are assumed to withdraw their member contributions with interest.

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

[^7]
## Actuarial Certification - Plan and HBS

The asset valuation method is the market value less ten year phase-in of excess (shortfall) investment income. See Section 9B of the June 30, 2008 valuation of the Plan report.

The funding method is the projected unit-credit method as prescribed in Arizona Revised Statutes Section 38.757 A .

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
Principal and Consulting Actuary

## Independent Review of 2008 Actuarial Valuations of the ASRS Plan HBS and LTD

September 1, 2009
Mr. Paul Matson
Director
Arizona State Retirement System
3300 North Central Avenue
Phoenix, AZ 85012-0250

Dear Mr. Matson:
Cavanaugh Macdonald Consulting. LLC was selected to provide this independent review of the June 30, 2008 actuarial valuations of the Arizona State Retirement System (ASRS). As an independent reviewing actuary, we have been asked to express an opinion regarding the reasonableness and accuracy of the actuarial assumptions, actuarial cost methods, and valuation results.

The ASRS Plan, System and Long Term Disability Program were included in the review. The retained actuary for ASRS is Buck Consultants (Buck). We would like to thank Buck for their cooperation and assistance in providing the required information to us. We generally find the actuarial valuations to be reasonable and accurate. The valuations were performed by qualified actuaries and were performed in accordance with the principles and practices prescribed by the Actuarial Standards Board. This report documents the results of our review.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Sincerely,

Thard (Cancou
Thomas J. Cavanaugh, FSA, FCA, MAAA, EA Chief Executive Officer


John Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

TJC/JG:kc

## 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, 2008

|  | State Employees | Teachers | Political <br> Subdivision <br> Employees | Total |
| :--- | :---: | :---: | :---: | :---: |
| Active Members | 47,254 | 73,998 | 105,163 | 226,415 |
| Number of members (active) | 45.8 | 43.6 | 45.4 | 44.9 |
| Average age | $\$ 46,498$ | $\$ 47,597$ | $\$ 37,932$ | $\$ 42,879$ |
| Average annual salary | 9.2 | 9.7 | 7.3 | 8.5 |

As of June 30, 2008

| Retired Members | State Employees | Teachers | Political <br> Subdivision <br> Employees | Total |
| :--- | :---: | :---: | :---: | :---: |
| Number of retirees | 21,781 | 27,737 | 39,438 | 88,956 |
| Average age | 70.5 | 68.1 | 70 | 69.5 |
| Average monthly benefit | $\$ 1,398$ | $\$ 2,248$ | $\$ 1,247$ | $\$ 1,596$ |
| Average years of service | 18.3 | 23.6 | 17.4 | 19.6 |

Of all plan retirees at June 30, 2008, 58.3\% received annuities of more than $\$ 1,000$ per month. $11.2 \%$ received less than $\$ 300$ per month. Of the retirees $15.2 \%$ are less than 60.0 years old, $57.4 \%$ are between 60 and 75 years old, and $27.4 \%$ 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.

|  | $\mathbf{2 0 0 3 - 0 4}$ | $\mathbf{2 0 0 4 - 0 5}$ | $\mathbf{2 0 0 5 - 0 6}$ | $\mathbf{2 0 0 6 - 0 7}$ | $\mathbf{2 0 0 7 - 0 8}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| State employees | $\$ 35,461$ | $\$ 40,270$ | $\$ 40,328$ | $\$ 43,565$ | $\$ 46,498$ |
| Teachers | 40,253 | 43,348 | 43,770 | 45,957 | 47,597 |
| Political subdivision employees | 29,775 | 32,877 | 33,211 | 36,118 | 37,932 |
| All groups | 34,372 | 37,853 | 38,185 | 40,901 | 42,879 |

## 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, 2008, the date of the most recent actuarial valuation, this funding level is $82.2 \%$. When the present actuarial asset value of $\$ 27.852$ billion is compared to the actuarial liabilities of $\$ 33.871$ billion, actuarial liabilities exceed actuarial assets by the amount of $\$ 6.019$ billion.

## Normal Costs and Required Contribution Rates

The Plan's normal cost for fiscal year (FY) 2007-2008 is $12.90 \%$ and for FY 2006-2007 is 12.93\%. 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:

| Retirement benefits | 9.76\% |
| :---: | :---: |
| Health insurance premium supplement | 0.48 |
| Survivor benefits | 0.33 |
| Withdrawals | 1.78 |
| Long-term disability benefit | 0.55 |
| Total, normal cost | 12.90\% |
| Amortization of the UAAL | 5.10 |
| Required contribution rate for FY 2010 | 18.00\% |
| Shared by employee and employer | Divided by 2 |
| Required contribution rate for FY 2010 | 9.00\% |
| Required matching contribution rate shared by member and employer to the nearest 0.05\% | 9.00\% |

## 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 were separated from the Plan. No assets were transferred to the LTD fund. Accordingly, the objectives of the funding method that the Board adopted for the LTD program have been:

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

The LTD contribution rate for fiscal year 2008 and fiscal year 2007 is 1.00 percent, shared equally by employees and employers.

## Summary of Actuarial Method for Long-Term Disability Benefit

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

## Summary of Benefit Provisions - Plan and HBS

The Arizona State Retirement Plan makes provision for the retirement, disability, and death and survivor benefits to all employees of the State, instrumentalities of the State and certain political subdivisions. The major provisions of the Plan may be summarized as follows:

## A. RETIREMENT BENEFITS

## A. RETIREMENT BENEFITS

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 60month average and include additional types of compensation, if doing so produces a larger result.

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

Note: Members hired after the effective date of the adoption of the graded multiplier have a maximum benefit equal to $80 \%$ of their 36 -month final average earnings.
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 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 .

AGE AT DATE OF RETIREMENT

| Years of <br> Service | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $5-10$ | $35 \%$ | $40 \%$ | $45 \%$ | $50 \%$ | $55 \%$ | $60 \%$ | $65 \%$ | $70 \%$ | $75 \%$ | $80 \%$ | $85 \%$ | $88 \%$ | $91 \%$ | $94 \%$ | $97 \%$ | $100 \%$ |
| $10-19$ | $44 \%$ | $49 \%$ | $54 \%$ | $59 \%$ | $64 \%$ | $69 \%$ | $74 \%$ | $79 \%$ | $84 \%$ | $89 \%$ | $94 \%$ | $97 \%$ | $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ |
| $20+$ | $50 \%$ | $55 \%$ | $60 \%$ | $65 \%$ | $70 \%$ | $75 \%$ | $80 \%$ | $85 \%$ | $90 \%$ | $95 \%$ | $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ |

6. Normal Form of Benefit

Straight life annuity 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 or ten 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 $\$ 600$.

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

1. Long-Term disability

Monthly benefit equal to two-thirds of monthly compensation, reduced by any social security disability or workers' compensation benefits, payable commencing six months after date of disability until the earlier of:
(a) Date of cessation of total disability, or
(b) Normal retirement date.

## Summary of Benefit Provisions - Plan and HBS

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 $\$ 50.00$.

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

1. Eligibility

Age 50 with 5 years of service.
2. Benefit Amount

A life annuity that can be provided by the 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-RETIREMENT DEATH BENEFITS

## 1. Eligibility

Applicable if death occurs prior to retirement.
2. Benefit

Any one of the following, at the option of the beneficiary:
(a) a lump sum equal to the sum of (i) and (ii):
(i) 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.

## Summary of Benefit Provisions - Plan and HBS

## E. VESTING 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.

## F. RETIREE HEALTH INSURANCE PREMIUM SUPPLEMENT

1. Eligibility

Retirement or disability after 5 years of credited service and covered by an employersponsored 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 retirees die. The maximum benefits for participants with 10 or more years of service are:
(a) with respect to premiums paid for retirees with member only coverage:

- $\$ 150$ per month if the retiree is under age 65
- $\$ 100$ per month if the retiree is 65 or over


## Summary of Benefit Provisions - Plan and HBS

(b) with respect to premiums paid for retirees with family coverage:

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

For 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. AUTOMATIC COST OF LIVING ADJUSTMENT BASED ON EXCESS INVESTMENT EARNINGS

1. Permanent Benefit Increase (PBI)

Retirees who have been retired one year and LTD members are eligible for a COLA up to a maximum of a $4 \%$ increase. The COLA is paid from a reserve of "Excess Investment Earnings." If there are no "Excess Investment Earnings" in reserve then no COLA is paid.
2. Permanent Benefit Increase Enhancement

Provides retired members with at least ten years of service who have been retired five or more years an additional benefit. For each complete 5-year period the member has been retired an incremental benefit is paid if monies to pay the benefit are available. This benefit is funded by an interest credit of $8.0 \%$ of the reserve for future PBIs.
PBI and enhanced PBI benefits are reflected in the valuation as soon as they are awarded. Future PBI and enhanced PBI are not included in the valuation.

## H. EMPLOYEE AND EMPLOYER CONTRIBUTIONS

The contribution rate for the fiscal year beginning on July 1st is based on the results of the most recent actuarial valuation as of the last day of the preceding plan year. Member's contribution rate is equal to the required employer contribution rate. The contribution rate for fiscal year 2009 is $8.95 \%$ for each member and each employer, based on the 2007 actuarial valuation. The contribution rate for fiscal year 2010 will be $9.00 \%$ based on the 2008 valuation.

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

(Adopted by Board Action on April 18, 2008)<br>Effective as of June 30, 2008

## A. Actuarial Assumptions

1. Investment Yield Rate
2. Mortality
(a) Pre-retirement

Prior Assumption

Adopted Assumption

RATES OF MORTALITY (ACTIVE)

| Age | RATES OF MORTALITY <br> Male Participants | (ACTIVE) <br> Female Participant |
| :--- | :---: | :---: |
| 20 | 0.000373 | 0.000219 |
| 25 | 0.000563 | 0.000232 |
| 30 | 0.000739 | 0.000299 |
| 35 | 0.000785 | 0.000400 |
| 40 | 0.000943 | 0.000557 |
| 45 | 0.001280 | 0.000752 |
| 50 | 0.001929 | 0.001085 |
| 55 | 0.003255 | 0.002017 |
| 60 | 0.006162 | 0.004097 |
| 65 | 0.011600 | 0.007970 |
| 70 | 0.018633 | 0.012672 |

(b) Post-retirement

Prior Assumptions

Adopted Assumptions

8\% per annum, compounded annually

1994 GAM - Static Table, Projected to 2005 with Projection Scale AA, with no age setback.

1994 GAM - Static Table, Projected to 2010 with Projection Scale AA, with no setback. 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 April i8, 2008)
Effective as of June 30, 2008

## RATES OF MORTALITY

|  | Non-Disabled <br> Age | Disabled | Non-Disabled | Disabled |
| :--- | :--- | :--- | :--- | :--- |
| 20 | 0.000373 | 0.051100 | Female Participants |  |

3. Disability Rates

RATES OF DECREMENT DUE TO DISABILITY

| Age | Male Participants | Female Participants |
| :--- | :--- | :--- |
| 20 | 0.000575 | 0.000734 |
| 25 | 0.000638 | 0.000804 |
| 30 | 0.000730 | 0.001014 |
| 35 | 0.001096 | 0.001563 |
| 40 | 0.002111 | 0.002111 |
| 45 | 0.003358 | 0.003171 |
| 50 | 0.005128 | 0.004865 |
| 55 | 0.007715 | 0.007022 |
| 60 | 0.011992 | 0.010913 |

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

(Adopted by Board Action on April i8, 2008)<br>Effective as of June 30, 2008

4. Withdrawal Rates (for causes other than death, disability or retirements)

Select and ultimate withdrawal rates are used. Rates at representative ages are shown below:
RATES OF DECREMENT DUE TO WITHDRAWAL

| Years of Service |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ |
| Male Employees |  |  |  |  |  |  |  |  |  |  |  |
| 20 | 0.3731 | 0.3642 | 0.2895 | 0.2545 | 0.1508 | 0.1364 | 0.0910 | 0.0843 | 0.0711 | 0.0763 | 0.1277 |
| 30 | 0.2267 | 0.2055 | 0.1612 | 0.1547 | 0.0917 | 0.0943 | 0.0714 | 0.0682 | 0.0514 | 0.0514 | 0.0565 |
| 40 | 0.1931 | 0.1698 | 0.1011 | 0.1015 | 0.0601 | 0.0665 | 0.0551 | 0.0546 | 0.0400 | 0.0383 | 0.0227 |
| 50 | 0.1892 | 0.1692 | 0.0904 | 0.0820 | 0.0458 | 0.0502 | 0.0466 | 0.0351 | 0.0345 | 0.0319 | 0.0155 |
| 60 | 0.2219 | 0.1824 | 0.0963 | 0.0848 | 0.0445 | 0.0371 | 0.0339 | 0.0333 | 0.0261 | 0.0246 | 0.0108 |
| 70 | 0.2604 | 0.2282 | 0.1320 | 0.1229 | 0.0616 | 0.0549 | 0.0369 | 0.0313 | 0.0220 | 0.0204 | 0.0180 |
| Female Employees |  |  |  |  |  |  |  |  |  |  |  |
| 20 | 0.3316 | 0.3053 | 0.2640 | 0.2596 | 0.2101 | 0.2077 | 0.1680 | 0.1405 | 0.1380 | 0.1285 | 0.2148 |
| 30 | 0.2015 | 0.1937 | 0.1652 | 0.1456 | 0.1094 | 0.1089 | 0.0930 | 0.0813 | 0.0811 | 0.0760 | 0.0821 |
| 40 | 0.1720 | 0.1693 | 0.1174 | 0.0930 | 0.0666 | 0.0661 | 0.0563 | 0.0482 | 0.0461 | 0.0417 | 0.0239 |
| 50 | 0.1698 | 0.1457 | 0.0927 | 0.0722 | 0.0528 | 0.0522 | 0.0426 | 0.0335 | 0.0287 | 0.0227 | 0.0167 |
| 60 | 0.1805 | 0.1432 | 0.0939 | 0.0731 | 0.0508 | 0.0466 | 0.0357 | 0.0275 | 0.0237 | 0.0190 | 0.0088 |
| 70 | 0.1916 | 0.1666 | 0.1199 | 0.0955 | 0.0622 | 0.0508 | 0.0363 | 0.0293 | 0.0311 | 0.0358 | 0.0144 |

5. Salary Scales A Select and ultimate salary scale made up of a merit component and general salary increase component as follows:

Years of Service
(1)

1
2
3
4
5
6
7
8
9
10
11 to 19
20 or more

Merit Component
(2)

| $5.00 \%$ | $9.50 \%$ |
| :--- | :--- |
| $4.00 \%$ | $8.50 \%$ |
| $2.50 \%$ | $7.00 \%$ |
| $1.80 \%$ | $6.30 \%$ |
| $1.40 \%$ | $5.90 \%$ |
| $1.25 \%$ | $5.75 \%$ |
| $1.00 \%$ | $5.50 \%$ |
| $0.80 \%$ | $5.30 \%$ |
| $0.75 \%$ | $5.25 \%$ |
| $0.50 \%$ | $5.00 \%$ |
| $0.25 \%$ | $4.75 \%$ |
| $0.00 \%$ | $4.50 \%$ |

[^8]
# Statement of Actuarial Methods and Assumptions Used in Determining Cost - Plan and HBS 

(Adopted by Board Action on April i8, 2008)
Effective as of June 30, 2008
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 - Male Members

| Age | $\mathbf{0 - 4}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5}$ | $\mathbf{2 6 - 2 9}$ | $\mathbf{3 0}$ | $\mathbf{3 1 +}$ |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 50 | 0.000 | 0.070 | 0.046 | 0.051 | 0.056 | 0.086 | 0.078 | 0.191 | 0.141 |
| 55 | 0.000 | 0.056 | 0.041 | 0.046 | 0.071 | 0.174 | 0.141 | 0.186 | 0.136 |
| 60 | 0.000 | 0.077 | 0.081 | 0.101 | 0.248 | 0.278 | 0.211 | 0.361 | 0.311 |
| 62 | 0.000 | 0.087 | 0.311 | 0.351 | 0.411 | 0.441 | 0.411 | 0.561 | 0.511 |
| 65 | 0.269 | 0.139 | 0.312 | 0.312 | 0.312 | 0.342 | 0.312 | 0.362 | 0.312 |
| 70 | 0.290 | 0.155 | 0.318 | 0.318 | 0.318 | 0.348 | 0.318 | 0.368 | 0.318 |

Years of Service - Female Members

| Age | $\mathbf{0 - 4}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5}$ | $\mathbf{2 6 - 2 9}$ | $\mathbf{3 0}$ | $\mathbf{3 1 +}$ |
| :--- | ---: | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 50 | 0.000 | 0.072 | 0.047 | 0.052 | 0.057 | 0.087 | 0.079 | 0.192 | 0.142 |
| 55 | 0.000 | 0.068 | 0.043 | 0.048 | 0.073 | 0.175 | 0.143 | 0.188 | 0.138 |
| 60 | 0.000 | 0.087 | 0.079 | 0.099 | 0.246 | 0.276 | 0.209 | 0.359 | 0.309 |
| 62 | 0.000 | 0.097 | 0.308 | 0.348 | 0.408 | 0.438 | 0.408 | 0.558 | 0.508 |
| 65 | 0.217 | 0.147 | 0.309 | 0.309 | 0.309 | 0.339 | 0.309 | 0.359 | 0.309 |
| 70 | 0.222 | 0.151 | 0.314 | 0.314 | 0.314 | 0.344 | 0.314 | 0.364 | 0.314 |

Due to a valuation software change, the retirement rates this year include both retirement and withdrawal rates.

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

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

(Adopted by Board Action on April i8, 2008)<br>Effective as of June 30, 2008

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

Prior Assumption: It is assumed that $75 \%$ of future retirees will be eligible to receive the postretirement health insurance premium supplement and that $60 \%$ of those retirees will be eligible for the dependent premium supplement.

Adopted Assumption: 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 members who terminate with 5 or more years of service (but prior to eligibility for retirement) 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 with less than five years of service are assumed to withdraw their member contributions with interest.

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.

## 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. 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, 2008, the period is 30 years.

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Actuarial Section
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## Plan and HBS Schedules

## D. Data for Valuation

In preparing the actuarial valuation as of June 30,2008 , the actuary has relied on data and assets provided by the staff of the Arizona State Retirement System. While not verifying the data at their source, the actuary has performed tests for consistency and reasonableness.

## SCHEDULE OF PLAN ACTIVE MEMBER VALUATION DATA

Last 6 Years

## Contributing Active Members

| Valuation As of <br> June 30 | Number |
| :---: | :---: |
| 2003 | 202,398 |
| 2004 | 205,482 |
| 2005 | 212,202 |
| 2006 | 217,676 |
| 2007 | 224,001 |
| 2008 | 226,415 |

Annual Payroll
$7,296,827,756$
$7,485,590,038$
$8,032,457,947$
$8,311,869,615$
$9,161,803,726$
$9,708,352,896$

| Annual |
| :---: |
| Average Pay |

36,052
36,429
37,853
38,185
40,901
42,879

I ncrease in Average Pay
2.6
1.0
3.9
0.9
7.1
4.8

SCHEDULE OF PLAN RETIREES ADDED TO AND REMOVED FROM ROLLS
Last 6 Years

|  | Retirants and Beneficiaries Added to Rolls |  | Retirants and Beneficiaries Removed from Rolls |  | Retirants and Beneficiaries Rolls End of Year |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year <br> Ended | No. | Annual Allowance | No. | Annual Allowance | No. | Annual Allowance | \% Increase in Annual Allowances | Average Annual Allowances |
| 2003 | 5,955 | N/A | 1,604 | N/A | 64,697 | N/A | 2.2 | 16,812 |
| 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 Comprebensive Annual Financial Report

## Plan and HBS Schedules

SCHEDULE OF UNFUNDED (OVER) ACCRUED LIABILITIES - PLAN Last 10 Years

| Year <br> Ended <br> June <br> $\mathbf{3 0}$ | Aggregate <br> Accrued <br> Liabilities Plan | Actuarial <br> Value of Net <br> Plan Assets | Assets <br> as a $\%$ of <br> Accrued | Unfunded <br> Plan | (over) Accrued <br> Liabilities Plan <br> (UAL) | Active <br> Member <br> Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1999 | $\$ 16,121,899,529$ | $\$ 18,760,959,854$ | 116 | $(\$ 2,639,060,325)$ | UAL as <br> a of of <br> Active <br> Member <br> Payroll |  |
| 2000 | $17,548,523,131$ | $21,126,877,491$ | 120 | $(3,578,354,360)$ | $5,750,294,662$ | $-62.2 \%$ |
| 2001 | $20,268,514,444$ | $22,855,143,539$ | 113 | $(2,586,629,095)$ | $6,356,698,800$ | $-40.7 \%$ |
| 2002 | $22,586,920,751$ | $23,623,015,969$ | 105 | $(1,036,095,218)$ | $6,989,339,000$ | $-14.8 \%$ |
| 2003 | $24,303,639,447$ | $23,516,898,511$ | 97 | $786,740,936$ | $7,296,827,756$ | $10.8 \%$ |
| 2004 | $25,918,329,505$ | $23,642,904,763$ | 91 | $2,275,424,742$ | $7,485,590,038$ | $30.4 \%$ |
| 2005 | $27,942,601,285$ | $23,836,519,123$ | 85 | $4,106,082,162$ | $8,032,457,947$ | $51.1 \%$ |
| 2006 | $29,696,631,262$ | $24,851,522,776$ | 84 | $4,845,108,486$ | $8,311,869,615$ | $58.3 \%$ |
| 2007 | $31,995,671,426$ | $26,476,687,905$ | 83 | $5,518,983,521$ | $9,161,803,726$ | $60.2 \%$ |
| 2008 | $33,870,864,745$ | $27,851,825,730$ | 82 | $6,019,039,015$ | $9,708,352,896$ | $62.0 \%$ |

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Actuarial Section
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## Plan and HBS Schedules

## SOLVENCY TEST

Last 10 Years
Aggregate Accrued Liabilities for

| Year | (1) | (2) | (3) <br> Active <br> Ended <br> 30-Jun | Rember <br> Rentribees <br> and | Members <br> (Employer <br> Financed <br> Portion) | Net Assets <br> Available for <br> Benefits | Portion of Accrued <br> Liabilities Covered <br> by Net Assets |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beneficiaries |  |  |  |  |  |  |  |

## Plan and HBS Schedules

## SCHEDULE OF RECOMMENDED VS. ACTUAL PLAN CONTRIBUTIONS

Last 10 Years
(In Thousands)

| Year Ended <br> June 30 | Active Member <br> Payroll | Employee <br> Contributions | Employer Retirement <br> Contribution Rate - Actual | Actuary Recommended <br> Contribution |
| :---: | :---: | :---: | :---: | :---: |
| 1999 | $\$ 5,488,000,000$ | $\$ 152,916,525$ | $2.85 \%$ | $2.85 \%$ |
| 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 | $9,708,000,000$ | $857,502,851$ | $9.10 \%$ | $9.10 \%$ |

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

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Actuarial Section
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## Plan and HBS Schedules

## ANALYSIS OF FINANCIAL EXPERIENCE FOR THE PLAN

Last 10 Years
(In Millions)

| Year <br> Ended <br> June <br> $\mathbf{3 0}$ | Unfunded <br> Actuarial <br> Liability <br> (UAAL), | Normal <br> Cost for <br> Prior Year | Contribu- <br> thens for <br> the Year | Interest <br> at 8\% on <br> UAAL | On <br> Normal <br> Cost | On <br> Contri- <br> butions | Total | Expected <br> UAAL | Actual <br> UAAL | (Loss) for <br> the Year* |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1999 | $(2,530.12)$ | 540.46 | $(347.97)$ | $(202.41)$ | 43.24 | $(13.92)$ | $(173.09)$ | $(2,510.72)$ | $(2,639.06)$ | 128.34 |
| 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 | $5,492.58$ | $6,019.04$ | $(526.46)$ |

[^9]
## Actuarial Certification - LTD

## buckconsultants <br> an ACS company

December 23, 2008

## 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, 2008
Dear Retirement Board Members:
We certify that the information contained in the attached 2008 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, 2008.

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

December 23, 2008
Page 2

## Funding Objectives

The actuarial valuation calculates the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to fund the normal cost plus the amortization of unfunded actuarial accrued liability over a rolling 15 -year period. Contribution rates are set annually, based on the valuation of the preceding year. The rate calculated in this report ( $0.40 \%$ for each employer and employee) will apply in the fiscal year beginning July 1,2009 . 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.

## Benefit Provisions

There have been no changes in benefit provisions since the last valuation.
The terms of the LTD Program are summarized on pages 14 to 16 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 actuarial assumptions were proposed to ASRS and adopted. Pre- and postretirement mortality assumptions were changed from the 1994 Group Annuity Mortality (GAM) table projected to 2005 , to the 1994 GAM table projected to 2010 . The $10 \%$ load added to LTD liabilities last year was also removed. These assumptions are first effective for the valuation as of July 1, 2008.

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

December 23, 2008
Page 3

## Data

ASRS staff and Sedgwick (the administrator of the LTD program) supplied census data for participants as of June 30, 2008. 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 CARR.

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


Charles E. Chittenden, FSA, EA, MAAAA
Richer mixulaye
Michelle Reding DeLange, FSA, EA, MAAA

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Actuarial Section
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## General Actuarial Information - LTD

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

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

The following table summarizes the key results of the June 30, 2008, actuarial valuation of the Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program. These rates are effective 2009 and 2010 respectively.

| (Amounts in 000s) | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| :--- | ---: | ---: |
| Normal Cost | $\$ 47,774$ | $\$ 46,424$ |
| Actuarial Accrued Liability | 604,486 | 553,185 |
| Valuation Assets | 231,685 | 274,902 |
| Funded Status | $38.33 \%$ | $49.69 \%$ |
| Unfunded Actuarial Accrued | 372,800 | 278,283 |
| Liability (UAAL) | 40,328 | 30,104 |
| Past Service Cost | 88,102 | 76,528 |
| Annual Required Contribution (ARC) | $9,161,804$ | $9,708,353$ |
| Payroll |  |  |
| ARC as \% of payroll for each | $0.48 \%$ | $0.39 \%$ |
| employer and each member | $4.10 \%$ | $2.90 \%$ |
| 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 | 4,882 |
| :--- | ---: |
| Average Age | 54 |
| Average Monthly Benefit | $\$ 1,079$ |

## Summary of Benefit Provisions - LTD

## Summary of Benefit Provisions

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 $.40 \%$ 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. an injury or sickness for which the member received medical treatment within three months before the date of the member's coverage under the LTD Program. For any employee who becomes an active contributing member on or after July 1, 2008, members must receive medical treatment within six months prior to the date coverage begins under the LTD program. The restriction does not apply to a member who was employed by a participating employer for twelve continuous months nor does it apply to a member who was employed by an employer as of June 30, 1988.
Monthly benefits are not payable to a member who is receiving retirement benefits from ASRS.
Totally Disabled: A member is considered totally disabled if:
5. 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
6. for a member who has received monthly benefits for 24 or more total months, that a member is unable to perform any work for compensation or gain for which the member is reasonably qualified by education, training, or experience.

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

1. $85 \%$ of social security disability benefits that the member or the member's dependents are eligible to receive;
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Actuariall Section
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## Summary of Benefit Provisions - LTD

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:
7. the date the member ceases to be totally disabled;
8. 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;
9. the date the member withdraws employee contributions with interest and ceases to be a member; and
10. 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, 2007.

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

## Statement of Actuarial Methods and Assumptions

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, 2008, 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 April 18, 2008 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 Method

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

The majority of the assumptions used in LTD valuation are the same as those used in the valuation of the Plan and are based on the most recent experience study which covers the five year period from July 1, 2002 through June 30, 2007. Those assumptions include the mortality table used for post retirement mortality, the assumed retirement age, the probabilities of withdrawal from active service before age and service retirement, the pay increase assumptions and the extent to which total active member payroll is expected to increase as a result of inflation.

The assumptions unique to the LTD valuation were as follows:

## Discount Rate

Rates of Termination of Claims in Payment due to Death or Recovery

## Disability Incidence Rates for Active Members

$8 \%$ per annum
1987 Commissioners' Group Long Term Disability Valuation Table (1987 CGDT), applicable to plans with a six-month elimination period.

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

| $\underline{\text { Age }}$ | $\underline{\text { Males }}$ | $\underline{\text { Females }}$ |
| :--- | :--- | :--- |
| 20 | $0.06 \%$ | $0.70 \%$ |
| 30 | $0.07 \%$ | $0.10 \%$ |
| 40 | $0.21 \%$ | $0.21 \%$ |
| 50 | $0.51 \%$ | $0.49 \%$ |
| 60 | $1.20 \%$ | $1.09 \%$ |

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

Offsets for Disabled Members

We are assuming that the amounts that 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.

Offsets for Active Members

## Administrative Expense Reserve for Active Members

We assume that LTD Program benefits, after all applicable offsets are $60.0 \%$ 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.
$2.8 \%$ of projected claim liabilities. This is the percentage that applies for currently disabled members.

Pre-and post-retirement mortality assumptions were changed from the 1994 Group Annuity Mortality (GAM) table projected to 2005, to the 1994 GAM table projected to 2010. Also, the 10\% load previously added to liabilities was removed.

Changes in Assumptions Since the Prior Valulation

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|  | Retirants and Beneficiaries Added to Rolls |  | Retirants and Beneficiaries Removed from Rolls |  | Retirants and Beneficiaries Rolls End of Year |  | \% Increase in Annual Allowances | Average Annual Allowances |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Valuation <br> As Of <br> June 30 | No. | Annual Allowance | No. | Annual Allowance | No. | Annual Allowance |  |  |
| 2003 | 1,001 | 13,286,461 | 730 | 12,430,021 | 4,561 | 56,197,608 | 1.5\% | 12,321 |
| 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 |

SCHEDULE OF UNFUNDED (OVER) ACCRUED LIABILITIES - LTD
LAST 6 YEARS (in thousands)*

| Year Ended June 30 | Aggregate Accrued Liabilities Plan | Actuarial Value of Net Plan Assets | Assets as a \% of Accrued Liabilities Plan | Unfunded (Over) Accrued Liabilities Plan (UAL) | Active Member Payroll | UAL as a \% of Active Member Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2004 | \$ 544,205 | \$ 137,861 | 25.3\% | \$ 406,344 | \$ 7,458,590 | 5.4\% |
| 2005 | 577,405 | 164,834 | 28.5\% | 412,572 | 8,032,458 | 5.1\% |
| 2006 | 574,701 | 194,297 | 33.8\% | 380,404 | 8,311,870 | 4.6\% |
| 2007 | 604,486 | 231,685 | 38.3\% | 372,800 | 9,161,804 | 4.1\% |
| 2008 | 553,185 | 274,902 | 49.7\% | 278,283 | 9,708,353 | 2.9\% |

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Actuarial Section
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## LTD Schedules

## SOLVENCY TEST

Last 6 Years
(in Thousands)
Aggregate Accrued Liabilities for

| (1) |  | (2) (3) |  |  | Portion of Accrued |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year Ended June 30 | Active Member Contributions | Retirees and Beneficiaries | Active Members (Employer Financed Portion) | Net Assets Available for Benefits | Portio Liabili by Net Availa (1) | of Ac ies Cov Assets for (2) | ued red <br> enefits <br> (3) |
| 2003 | - | \$222,704 | \$26,415 | \$110,201 | 100\% | 49\% | 0\% |
| 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\% |

*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
(in Thousands)

| Year <br> Ended <br> June 30 | Active <br> Member <br> Payroll | Employer <br> Eontributions | Retirement <br> Contribution <br> Rate <br> Actual | Actuary <br> Recommended <br> Contribution |
| :--- | :---: | :---: | :---: | :---: |
| 1999 | $5,488,000$ | 27,440 | $0.50 \%$ | $0.50 \%$ |
| 2000 | $5,750,000$ | 28,750 | $0.50 \%$ | $0.50 \%$ |
| 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 | $0.50 \%$ | $0.50 \%$ |

## LTD Schedules

## ANALYSIS OF FINANCIAL EXPERIENCE FOR LTD

## 1. Change in Open Claims Reserves

The increase in the reserves for payments not yet due on disabled lives may be summarized as follows:

|  | Lives | Reserves |  |
| :--- | :--- | :---: | ---: |
| (a) | Open Claims Reserve Liability on July 1, 2007 | 5,071 | $\$ 267,616,013$ |
| (b) | Change in assumptions | $\mathrm{N} / \mathrm{A}$ | $(24,328,728)$ |
| (c) | Change in reserve on 4,242 continuing disabled lives | $\mathrm{N} / \mathrm{A}$ | $(28,560,557)$ |
| (d) | Reserves released on terminated lives | $(829)$ | $(27,442,345)$ |
| (e) | Reserves added on new lives | 640 | $39,637,840$ |
| (f) | Open Claims Reserve Liability on June 30, 2008 |  |  |
|  | $=(a)+$ (b) + (c) + (d) + (e) | 4,882 | $\$ 226,922,223$ |

## 2. Development of Liability (Gain)/Loss

(a) Actuarial Accrued Liability as of July 1, 2007
(b) Normal Cost for 2007/2008
\$604,485,547
47,774,219
(c) Expected Benefit Payments for 2007/2008

70,672,000
(d) Expected Actuarial Accrued Liability on June 30, 2008 $=((a)+(b)) \times 1.08-(c) \times(1+.08 \times 13 / 24)$

630,706,094
(e) Change in Plan Terms

N/A
(f) Change in Assumptions
$(63,135,569)$
(g) Liability (Gain)/Loss
(14,385,041)
(h) Actual Actuarial Accrued Liability on June 30, 2008 $=(\mathrm{d})+(\mathrm{e})+(\mathrm{f})+(\mathrm{g})$ \$553,185,484

## 3. Development of Actuarial Value of Assets

(a) Excess (Shortfall) of Investment Income:
(i) Current Year
(ii) Current Year - 1
\$(44,661,134)
(iii) Current Year - 2

11,421,699
1,895,241
(b) Deferral of Excess (Shortfall):
(i) Current Year (90\% Deferral)
$(40,195,021)$
(ii) Current Year - 1 ( $80 \%$ Deferral)
(iii) Current Year - 2 ( $70 \%$ Deferral)
(iv) Total Deferred for the Year
(c) Market Value of Assets as of June 30, 2008

9,137,359
1,326,669
\$(29,730,993)
245,171,095
(d) Actuarial Value of Assets as of June 30, 2008

274,902,088
$=(c)-(b)(i v)$

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Actuarial Section
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## LTD Schedules

## 4. Development of Asset (Gain)/Loss

(a) Actuarial Value of Assets as of July 1, 2007 \$231,685,240
(b) Contributions 94,342,074
(c) Actual Benefit Payments for 2007/2008 68,283,994
(d) Expected Investment Income at 8\% Return 19,349,529
(e) Expected Actuarial Assets as of June 30, 2008
$=(a)+(b)-(c)+(d)$
\$277,092,849
(f) Gain/(Loss) on Actuarial Assets $\quad(2,190,761)$
(g) Actuarial Assets as of June 30, 2008
$=(e)+(f)$
\$274,902,088

The asset loss is due to investment earnings on actuarial assets less than expected.
The actual net return on actuarial assets was $7.09 \%$, compared to the assumption of $8 \%$.
5. Analysis of Sedgwick Offsets (as of June 30, 2008):

| Description of Offset from Sedgwick | Amount of <br> Monthly <br> Offsets | Number <br> With |
| :--- | ---: | ---: |
| Offsets |  |  |

6. Analysis of VPA Offsets (as of June 30, 2007)

|  | Amount of <br> Monthly <br> Offsets | Number <br> With |
| :--- | ---: | ---: |
| Description of Offset from Sedgwick | Offsets |  |
| Social Security Disability | 117,068 | 3,643 |
| Social Security Retirement | 509,403 | 155 |
| Other | $\$ 2,843,089$ | $\underline{1,072}$ |
| Total |  | 4,870 |

## Summary of Legislative Plan Changes

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

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

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

## 2. $\mathbf{\$ 1 2 , 0 0 0}$ 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. 2.0\% Ad Hoc COLAs

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


## 4. Early Retirement Window

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

## 5. 3.0\% Tax Equity Allowance

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

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

## 1. Rule of 82

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

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

## 1. 3.0\% Tax Equity Allowance

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

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

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

## 3. 2.3\% Ad Hoc Increase

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

## 4. Rule of 80

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

## 5. Pop-up Option

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

## Summary of Legislative Plan Changes

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

## 1. 3.0\% Tax Equity Allowance

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

## 2. Minimum Retiree Benefit

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

## 3. 5\% Ad Hoc Increase

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

## 4. Forfeited Service Repurchase

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

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

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

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

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

## Summary of Legislative Plan Changes

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

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

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

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

## 1. Minimum LTD Benefit

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

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

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

The maximum COLA payable from Excess Investment Earnings was increased from $50 \%$ to $100 \%$ of the increase in the CPI.
2. Removal of LTD Benefit from the Plan

The Legislature established a new LTD program and removed the LTD benefit from the Plan. Liabilities for current LTD recipients will be transferred to the new LTD program effective October 1, 1995.
3. Creation of Separate Account for the Health Premium Supplement

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

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

1. No material changes.

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

1. Creation of family Health Supplement.

Allows unused portion of the Health Supplement of a member or dependent to be used to pay the other recipient's health insurance premium.
2. The calculation methodology for the Excess Investment Earnings COLA was modified.
3. The contribution rate will be determined on a biennial cycle beginning with the 2000 fiscal year.

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

1. No material changes.

## Summary of Legislative Plan Changes

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

## 1. Enhanced Refund Option

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

## 2. Benefit Multiplier Increased to 2.1\%

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

## 3. 5\% Ad Hoc Increase

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

## 4. Increase in Maximum Service While on LTD

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

## 5. Changes in Permanent Benefit Increase COLA

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

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

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

## Summary of Legislative Plan Changes

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

## 1. Health Insurance Premium Benefit Increase

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

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

## Summary of Legislative Plan Changes

## 5. Temporary Rural Health Insurance Premium Benefit

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

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

## 1. No material changes.

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## Summary of Legislative Plan Changes

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

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

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

| Rural Health Insurance Subsidy | Insurance Coverage Without <br> Medicare Parts A \& B | Insurance Coverage With <br> Medicare Parts A \& B* |  |  |
| :--- | :--- | :--- | :--- | :--- |
| July 1, 2003- June 30, 2005 | Single $\quad$ Family | Single | Family |  |
| Required Minimum <br> Out-of-Pocket Payment | $\$ 125$ | $\$ 425$ |  |  |
| Rural Health Insurance <br> Subsidy (Maximums) | Up to $\$ 300 \quad$ Up to $\$ 600$ | $\$ 100$ | $\$ 200$ |  |

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


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

## 1. Service Purchase Program

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

## 2. Early Retirement Incentive Programs

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

## Summary of Legislative Plan Changes

## 3. Long-Term Disability Program

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

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

## 1. Temporary Rural Health Insurance Premium Benefit

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

## 2. Contribution Rates

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

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

## 1. Elections After Retirement

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

## 2. Conformance with Certain Federal Regulations

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

## 3. Repeal of Deferred Retirement Option Plan

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

## Summary of Legislative Plan Changes

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

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

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

## 2. Temporary Rural Health Insurance Premium Benefit

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

## 3. Exemption of Post-Doctoral Scholars

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

## 4. Expanded Eligibility for Active Military Service Credit

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

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

## 1. Unclaimed Property Exemption and Procedures

Legislation exempted ASRS from unclaimed property statutes. ASRS members will forfeit their benefits if they do not claim them by the time they reach age $73^{1 ⁄ 2}$. 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 $65^{1 / 2}$, 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 Sudanrelated business operations criteria. Additionally, ASRS must divest from companies that violate paragraph 6(j) of the Export Administration Act.

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Actuarial Section
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## Summary of Legislative Plan Changes

## 3. Transfer Procedures

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

## 4. Transfer Out Bills

These bills expanded the ASRS credited service that a dispatcher may transfer to CORP and extended the timeframe 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.

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## Table of Contents

## V. Statistical Section

This part of the Arizona State Retirement System's (ASRS's) comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required summary information says about the ASRS's overall financial health.

## Financial Trends

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Financial Trends: Net Assets - Last 10 Fiscal Years

| RETIREMENT NET ASSETS (in thousands) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | FISCAL YEAR |  |  |  |  |  |  |  |  |  |
| ASSETS | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Cash, Receivables, and Prepaids | \$317,058 | \$290,502 | \$307,934 | \$414,382 | \$2,139,601 | \$2,091,244 | \$2,396,175 | \$2,197,053 | \$2,095,722 | \$867,888 |
| Investments at Fair Value | 24,340,442 | 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 |
| Total Assets | 24,657,500 | 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 |
| LIABILITIES |  |  |  |  |  |  |  |  |  |  |
| Investments Payable | 1,714,961 | 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 |
| Other Payables | 475 | 5,503 | 569 | 3,423 | 7,822 | 20,470 | 23,108 | 27,729 | 31,431 | 54,094 |
| Total Liabilities | 1,715,436 | 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 |
| Total Net Assets | \$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 |
|  |  |  |  |  |  |  |  |  |  |  |
| HBS NET ASSETS (in thousands) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | FISCAL YEAR |  |  |  |  |  |
| ASSETS | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Cash, Receivables, and Prepaids | \$9,959 | \$10,597 | \$12,276 | \$15,451 | \$85,226 | \$85,061 | \$96,084 | \$90,106 | \$94,213 | \$45,385 |
| Investments at Fair Value | 953,418 | 899,282 | 843,856 | 805,430 | 917,308 | 974,406 | 1,081,538 | 1,335,221 | 1,273,867 | 1,046,717 |
| Total Assets | 963,377 | 909,879 | 856,132 | 820,881 | 1,002,534 | 1,059,467 | 1,177,622 | 1,425,327 | 1,368,080 | 1,092,102 |
| liabilities |  |  |  |  |  |  |  |  |  |  |
| Investments Payable | 67,496 | 70,833 | 87,285 | 122,775 | 194,486 | 187,770 | 204,237 | 261,980 | 279,619 | 193,139 |
| Other Payables | 19 | 14 | - | - | - | 60 | 3,639 | 394 | 475 | 1,770 |
| Total Liabilities | 67,515 | 70,847 | 87,285 | 122,775 | 194,486 | 187,830 | 207,876 | 262,374 | 280,094 | 194,909 |
| Total Net Assets | \$895,862 | \$839,032 | \$768,847 | \$698,106 | \$808,048 | \$871,637 | \$969,746 | \$1,162,953 | \$1,087,986 | \$897,193 |
|  |  |  |  |  |  |  |  |  |  |  |
| LTD NET ASSETS (in thousands) |  |  |  |  |  |  |  |  |  |  |
|  | FISCAL YEAR |  |  |  |  |  |  |  |  |  |
| ASSETS | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Cash, Receivables, and Prepaids | \$4,645 | \$13,214 | \$5,184 | \$4,145 | \$7,641 | \$14,040 | \$15,241 | \$10,565 | \$12,331 | \$11,998 |
| Investments at Fair Value | 93,409 | 80,143 | 90,048 | 108,364 | 130,428 | 151,025 | 180,983 | 233,148 | 233,062 | 215,151 |
| Total Assets | 98,054 | 93,357 | 95,232 | 112,509 | 138,069 | 165,065 | 196,224 | 243,713 | 245,393 | 227,149 |
| LiAbilities |  |  |  |  |  |  |  |  |  |  |
| Investments Payable | - | - | - | - | - | - | - | - | - | - |
| Other Payables | 10,374 | 174 | 1,228 | 2,308 | 207 | 231 | 222 | 227 | 222 | 4,341 |
| Total Liabilities | 10,374 | 174 | 1,228 | 2,308 | 207 | 231 | 222 | 227 | 222 | 4,341 |
| Total Net Assets | \$87,680 | \$93,183 | \$94,004 | \$110,201 | \$137,862 | \$164,834 | \$196,002 | \$243,486 | \$245,171 | \$222,808 |

Financial Trends: Changes in Net Assets Last 10 Fiscal Years

| RETI REMENT CHANGES I N NET ASSETS (in thousands) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Fiscal | Year |  |  |  |  |
| ADDITIONS | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Member Contributions | \$124,931 | \$133,504 | \$135,275 | \$142,356 | \$377,436 | \$403,661 | \$570,933 | \$766,962 | \$857,813 | \$844,540 |
| Employer Contributions | 72,256 | 77,196 | 131,234 | 138,100 | 297,770 | 318,311 | 477,472 | 663,544 | 759,482 | 754,044 |
| Member Reimbursements/Tran | Tansfers 35,348 | 39,535 | 50,832 | 93,552 | 113,944 | 141,932 | 125,751 | 107,548 | 95,226 | 72,436 |
| Net Investment Income (Loss) | ) 1,956,673 | $(1,449,643)$ | $(1,762,370)$ | 354,735 | 3,096,779 | 1,720,991 | 2,126,272 | 4,105,644 | $(1,963,259)$ | $(4,433,461)$ |
| Total Additions | 2,189,208 | (1,199,408) | $(1,445,029)$ | 728,743 | 3,885,929 | 2,584,895 | 3,300,428 | 5,643,698 | (250,738) | $(2,762,441)$ |
| deductions |  |  |  |  |  |  |  |  |  |  |
| Retirement Benefits | 695,426 | 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 |
| Survivor Benefits | 13,256 | 14,134 | 14,078 | 15,861 | 14,859 | 18,402 | 17,125 | 21,590 | 22,648 | 30,378 |
| Refunds/Transfers | 75,637 | 108,692 | 51,382 | 43,433 | 38,548 | 48,745 | 65,442 | 88,027 | 281,563 | 126,395 |
| Administration and Other | 12,841 | 12,370 | 16,708 | 27,345 | 29,948 | 25,476 | 30,137 | 33,351 | 29,203 | 28,589 |
| Total Deductions | 797,160 | 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 |
| Net Change | 1,392,048 | $(2,143,737)$ | $(2,451,369)$ | $(425,377)$ | 2,563,608 | 1,085,725 | 1,648,732 | 3,849,912 | $(2,352,371)$ | $(4,836,734)$ |
| Net assets beginning of year | 21,550,016 | 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 |
| Net assets end of year $\quad \$ 22,942,064 \$ 20,798,327$ \$18,346,958 \$17,921,581 \$20,485,189 \$21,570,914 \$23,219,646 \$27,069,558 \$24,717,187 \$19,880,453 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| HBS CHANGES IN NET ASSETS (in thousands) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | FISCAL | year |  |  |  |  |
| ADDITIONS | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Employer Contributions | \$52,674 | \$56,308 | \$4,041 | \$4,256 | \$79,662 | \$85,350 | \$93,461 | \$103,473 | \$99,027 | \$90,490 |
| Net Investment Income (Loss) | 5) 73,146 | $(72,558)$ | 1,811 | 10,436 | 114,906 | 68,750 | 86,587 | 174,348 | $(87,559)$ | $(192,303)$ |
| Total Additions | 125,820 | $(16,250)$ | 5,852 | 14,692 | 194,568 | 154,100 | 180,048 | 277,821 | 11,468 | $(101,813)$ |
| DEDUCTIONS |  |  |  |  |  |  |  |  |  |  |
| Health Premium Benefits | 37,652 | 40,500 | 75,990 | 84,534 | 83,680 | 89,602 | 80,827 | 83,236 | 85,132 | 87,723 |
| Administration and Other | 65 | 80 | 47 | 899 | 946 | 909 | 1,112 | 1,378 | 1,303 | 1,257 |
| Total Deductions | 37,717 | 40,580 | 76,037 | 85,433 | 84,626 | 90,511 | 81,939 | 84,614 | 86,435 | 88,980 |
| Net Change | 88,103 | $(56,830)$ | $(70,185)$ | (70,741) | 109,942 | 63,589 | 98,109 | 193,207 | $(74,967)$ | (190,793) |
| Net assets beginning of year | 807,759 | 895,862 | 839,032 | 768,847 | 698,106 | 808,048 | 871,637 | 969,746 | 1,162,953 | 1,087,986 |
| Net assets end of year | \$895,862 | \$839,032 | \$768,847 | \$698,106 | \$808,048 | \$871,637 | \$969,746 | \$1,162,953 | \$1,087,986 | \$897,193 |

## Financial Trends: Changes in Net Assets - Last 10 Fiscal Years

| LTD CHANGES IN NET ASSETS (in thousands) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | FISCAL | Year |  |  |  |  |
| ADDItions | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Member Contributions | \$28,027 | \$29,938 | \$32,938 | \$34,801 | \$36,026 | \$38,982 | \$41,188 | \$44,518 | \$47,171 | \$47,213 |
| Employer Contributions | 28,027 | 29,938 | 32,938 | 34,800 | 36,026 | 38,982 | 41,188 | 44,518 | 47,171 | 47,213 |
| Net Investment Income (Loss) | 5,493 | $(6,492)$ | $(7,519)$ | 3,461 | 17,100 | 13,651 | 18,080 | 30,526 | $(21,623)$ | $(47,726)$ |
| Total Additions | 61,547 | 53,383 | 58,357 | 73,062 | 89,152 | 91,615 | 100,457 | 119,562 | 72,719 | 46,700 |
| deductions |  |  |  |  |  |  |  |  |  |  |
| Disability Benefits | 41,220 | 45,848 | 54,804 | 54,688 | 58,976 | 62,183 | 66,695 | 69,221 | 68,284 | 65,781 |
| Administration and Other | 1,954 | 2,033 | 2,732 | 2,177 | 2,515 | 2,460 | 2,593 | 2,857 | 2,750 | 3,282 |
| Total Deductions | 43,174 | 47,881 | 57,536 | 56,865 | 61,491 | 64,643 | 69,288 | 72,078 | 71,034 | 69,063 |
| Net Change | 18,373 | 5,503 | 821 | 16,197 | 27,661 | 26,972 | 31,168 | 47,484 | 1,685 | $(22,363)$ |
| Net assets beginning of year | 69,307 | 87,680 | 93,183 | 94,004 | 110,201 | 137,862 | 164,834 | 196,002 | 243,486 | 245,171 |
| Net assets end of year | \$87,680 | \$93,183 | \$94,004 | \$110,201 | \$137,862 | \$164,834 | \$196,002 | \$243,486 | \$245,171 | \$222,808 |

## Financial Trends: Benefits Paid - Last 10 Fiscal Years



## Revenues: Contributions Received - Last 10 Fiscal Years

| RETI REMENT CONTRI BUTI ONS RECEI VED (in thousands) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | FISC | AL YEAR |  |  |  |  |
|  | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Member Contributions | \$124,931 | \$133,504 | \$135,275 | \$142,356 | \$377,436 | \$403,661 | \$570,933 | \$766,962 | \$857,813 | \$844,540 |
| Employer Contributions | 72,256 | 77,196 | 131,234 | 138,100 | 297,770 | 318,311 | 477,472 | 663,544 | 759,482 | 754,044 |
| Total Contributions | \$197,187 | \$210,700 | \$266,509 | \$280,456 | \$675,206 | \$721,972 | \$1,048,405 | \$1,430,506 | \$1,617,295 | \$1,598,584 |
| HBS CONTRI BUTI ONS RECEI VED (in thousands) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | FISC | AL YEAR |  |  |  |  |
|  | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Employer Contributions | \$52,674 | \$56,308 | \$4,041 | \$4,256 | \$79,662 | \$85,350 | \$93,461 | \$103,473 | \$99,027 | \$90,490 |
| LTD CONTRI BUTI ONS RECEI VED (in thousands) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | FISC | AL YEAR |  |  |  |  |
|  | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Member Contributions | \$28,027 | \$29,938 | \$32,938 | \$34,801 | \$36,026 | \$38,982 | \$41,188 | \$44,518 | \$47,171 | \$47,213 |
| Employer Contributions | 28,027 | 29,938 | 32,938 | 34,800 | 36,026 | 38,982 | 41,188 | 44,518 | 47,171 | 47,213 |
| Total Contributions | \$56,054 | \$59,876 | \$65,875 | \$69,601 | \$72,052 | \$77,964 | \$82,376 | \$89,036 | \$94,342 | \$94,426 |

## Revenues: Actual Contributions Rates - Last 10 Fiscal Years



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2009 Comprebensive Annual Financial Report
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## Operations: Members by Type of Benefit As of June 30, 2009

| RETIREMENT MONTHLY BENEFIT** | OPTIONS* |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Under \$300 | 6,700 | 282 | 361 | 615 | 1,625 | 144 | 261 |
| \$300-\$499 | 5,086 | 349 | 490 | 483 | 1,570 | 194 | 349 |
| \$500-\$999 | 10,695 | 826 | 1,262 | 1,007 | 3,085 | 658 | 1,077 |
| \$1000-\$1,499 | 7,278 | 676 | 1,071 | 609 | 2,565 | 721 | 1,044 |
| \$1,500-\$1,999 | 4,714 | 427 | 627 | 467 | 2,002 | 652 | 880 |
| \$2,000 \& Over | 13,353 | 824 | 1,315 | 1,446 | 6,185 | 2,153 | 2,828 |
| Totals | 47,826 | 3,384 | 5,126 | 4,627 | 17,032 | 4,522 | 6,439 |

* Options Key:

1 Life annuity - refund provision
2 Life annuity - 5 years certain and life
3 Life annuity - 10 years certain and life
4 Life annuity - 15 years certain and life
5 Joint annuity - 100 percent to contingent survivor
6 Joint annuity - $662 / 3$ percent to contingent survivor
7 Joint annuity - 50 percent to contingent survivor

The above schedule does not include System retirees.
** Most recent information available is 2008.
Source: Buck Consultants, LLC

| HBS |  |
| :--- | ---: |
| MONTHLY BENEFITS | MEMBERS |
| $\mathbf{\$ 1 - 1 9 9}$ | 54,468 |
| $\mathbf{2 0 0 - 2 9 9}$ | 3,148 |
| $\mathbf{3 0 0 - 3 9 9}$ | 368 |
| $\mathbf{4 0 0}$ \& Over | 51 |
| TOTAL | $\mathbf{5 8 , 0 3 5}$ |

Source: ASRS Pension Administration System

| LTD |  |
| :--- | ---: |
| MONTHLY BENEFIT | MEMBERS |
| \$1-299 | 10 |
| $\mathbf{3 0 0 - 4 9 9}$ | 41 |
| $\mathbf{5 0 0 - 9 9 9}$ | 509 |
| $\mathbf{1 0 0 0 - 1 4 9 9}$ | 1,287 |
| $\mathbf{1 5 0 0 - 1 9 9 9}$ | 1,236 |
| $\mathbf{2 0 0 0} \&$ over | 1,589 |
| TOTAL | $\mathbf{4 , 6 7 2}$ |

Source: Sedgewick CMS

## Operations: Average Benefit Payments Last 10 Fiscal Years

## RETI REMENT

|  | 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 1999 |  |  |  |  |  |  |  |  |  |  |
| Average monthly benefit | \$120 | \$259 | \$511 | \$806 | \$1,230 | \$1,846 | \$2,332 | \$2,448 | \$1,969 | \$1,771 |
| Number of retirees | 1,251 | 9,180 | 11,581 | 9,653 | 9,393 | 8,475 | 4,294 | 1,039 | 217 | 21 |
| 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 |

Average final salary information is not available.

* Most recent information available.

Source: Buck Consultants, LLC

```
2009 Comprebensive 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 |

Note: Information for prior years is not available.
Source: ASRS Pension Administration System

## LTD

## Fiscal year 2006

| Average monthly benefit | $\$ 1,689$ |
| :--- | ---: |
| Number of LTD participants | 4,968 |
| Fiscal year $\mathbf{2 0 0 7}$ |  |
| Average monthly benefit | $\$ 1,743$ |
| Number of LTD participants | 4,976 |

Fiscal year 2008

| Average monthly benefit | $\$ 1,823$ |
| :--- | ---: |
| Number of LTD participants | 4,957 |

Fiscal year 2009

| Average monthly benefit | $\$ 1,886$ |
| :--- | ---: |
| Number of LTD participants | 4,672 |

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

Source: Sedgewick CMS

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

| Participating Employer | 2009 |  |  | 2000 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Covered Employees | Rank | \% of Membership | Covered Employees | Rank | \% of Membership |
| Dept Of Administration | 29,120 | 1 | 13.04\% | 29,824 | 1 | 16.52\% |
| Maricopa County | 8,931 | 2 | 4.00\% | 8,912 | 3 | 4.94\% |
| Mesa Unified Dist 4 | 8,357 | 3 | 3.74\% | 7,359 | 5 | 4.08\% |
| Tucson Unified Dist 1 | 7,597 | 4 | 3.40\% | 7,543 | 4 | 4.18\% |
| University Of Arizona | 7,029 | 5 | 3.15\% | 6,995 | 6 | 3.88\% |
| Maricopa County Community College District 6,169 |  | 6 | 2.76\% | 3,985 | 9 | 2.21\% |
| Pima County | 5,700 | 7 | 2.55\% | 5,211 | 7 | 2.89\% |
| Arizona State University | 5,470 | 8 | 2.45\% | 4,575 | 8 | 2.53\% |
| Gilbert Unified Dist 41 | 4,954 | 9 | 2.22\% |  |  |  |
| Maricopa County Special Health Care Dist | st 3,967 | 10 | 1.78\% |  |  |  |
| Maricopa County School Office |  |  |  | 12,079 | 2 | 6.69\% |
| Paradise Valley Unified 69 |  |  |  | 3,256 | 10 | 1.80\% |
| * All other | 136,029 |  | 60.91\% | 90,752 |  | 50.28\% |
| Total | 223,323 |  | 100.00\% | 180,491 |  | 100.00\% |

* In 2009, "All Other" consisted of:

| Type | Number | Employees |
| :--- | ---: | ---: |
| Public Schools | 239 | 95,091 |
| Charter Schools | 156 | 4,425 |
| Cities | 78 | 19,027 |
| Counties | 13 | 8,345 |
| Higher Education | 10 | 6,053 |
| Other | 93 | 3,088 |
|  | $\underline{1369,029}$ |  |

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

2 OO9 $\quad$ Oomprebensive Annual Financial Report


[^0]:    * NOTE: Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 and 2009.

[^1]:    Additional information is available upon request. Please direct your request to the ASRS Financial Services Division, 3300 North Central Avenue, Phoenix, AZ 85012.

[^2]:    * Does not include system contributions

[^3]:    * NOTE: Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 or 2009.

[^4]:    * NOTE: Return on Private Equity Investments have not been included in Total Fund Performance for FY

[^5]:    Note: A detail listing of investments is available upon request. Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

[^6]:    * Represents credit on fees.

[^7]:    ${ }^{1}$ New assumptions as of June 30, 2008.

[^8]:    *Total salary increase rate $=$ inflation (or growth) rate $(4.25 \%)+$ productivity increase rate $(0.25 \%)+$ merit component

[^9]:    * Gain / loss includes assumption and plan changes.

[^10]:    * Information prior to 2004 is not available.

