ARKANSAS TEACHER RETIREMENT SYSTEM
Annual Actuarial Valuation of Active and Inactive Members

June 30, 2002

GABRIEL, ROEDER, SMITH & COMPANY

REPORT OF THE JUNE 30, 2002 ACTUARIAL VALUATION
OUTLINE OF CONTENTS

January 21, 2003

Board of Trustees
Arkansas Teacher Retirement System
Little Rock, Arkansas

The results of the annual actuarial valuation of non-retired members as of June 30, 2002 are presented in this report. This valuation is based upon the Arkansas Teacher Retirement System laws, as described in Section C of this report.

The census and financial operations data necessary for the actuarial valuation were furnished by the Retirement System. Preparation of this data requires considerable staff time. The helpful cooperation of the Executive Director and his staff in furnishing the data is acknowledged with appreciation.

Liabilities Covering Retirees and Beneficiaries. The June 30 annual valuation of retired lives receiving monthly benefits indicates the liabilities for future benefit payments to these people. These liabilities are covered in a separate report.

The actuarial assumptions used in the actuarial valuation are summarized in the Appendix of this report. These assumptions reflect experience during the period July 1, 1997 to June 30, 2002.

The valuation was completed using generally accepted actuarial principles and in accordance with standards of practice prescribed by the Actuarial Standards Board. To the best of our knowledge, this report is complete and accurate and the methods and assumptions produced results which are reasonable.

Respectfully submitted,

Brian B. Murphy, MAAA, FSA Judith A. Kermans, MAAA, EA

BBM/RGS/TCB

COMMENTS

General Financial Objective. Section 24-3-103 of the Arkansas Code provides as follows (emphasis added):

> "6.01. (1) The general financial objective of each Arkansas public employee retirement plan shall be to ***establish and receive contributions which, expressed as percents of active member payroll, will remain approximately level from generation to generation of Arkansas citizens***. More specifically, contributions received each year shall be sufficient both to (i) fully cover the costs of benefit commitments being made to members for their service being rendered in such year and (ii) make a level payment which if paid annually over a reasonable period of future years will fully cover the unfunded costs of benefit commitments for service previously rendered....."

Teacher Retirement System Status. Based upon the results of June 30, 2002 actuarial valuations, ***TRS is satisfying the financial objective of level-contribution-percent financing.***

There were no benefit changes reflected in this valuation. This valuation incorporates the results of a 5 year Experience Study for the 1997-2002 period.

The amortization period this year is 38 years, a decrease from last year's 125-year period. The amortization period of 38 years is the net of very unfavorable investment experience and a change in assumptions as a result of the 1997-2002 Experience Study. Investment experience for ATRS, and for most retirement systems in the United States, was unfavorable during the past year. The market value of assets actually dropped during the year. The asset valuation method phases in gains and losses over the current year and three future years (Please see page D-2). This means that ATRS must earn well above the assumed rate during each of the next three years in order to sustain the 30 year amortization period, based upon the present assumptions. An alternative is an increase in the contribution rates, which, in our judgment, deserves careful consideration at this time.

The funding value of assets now exceeds the market value by 17%. Present market conditions can lead to a situation where the recognized assets might deviate greatly from the market value. To prevent this, we recommended adding a requirement that the recognized assets must always be between 80% and 120% of the market value. See page D-1 regarding the asset valuation method.

The Arkansas Teacher Retirement System is 92% funded as of this valuation date, indicating a solid financial position even in the face of weak investment markets.

BENEFIT CHANGES DURING RECENT YEARS OF RETIREMENT & RELATED CHANGES IN PURCHASING POWER (1970 $)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				1970 $	% of 1970
1970	- - - -	$ 5,000	- - - -	$5,000	100%
1971	$ 75	5,075	(4.5)%	4,850	97%
1972	75	5,150	(2.9)%	4,792	96%
1973	75	5,225	(5.9)%	4,587	92%
1974	1,015	6,240	(11.0)%	4,941	99%
1975	474	6,714	(9.3)%	4,860	97%
1976	886	7,600	(5.9)%	5,192	104%
1977	114	7,714	(6.9)%	4,931	99%
1978	114	7,828	(7.4)%	4,658	93%
1979	114	7,942	(10.9)%	4,262	85%
1980	417	8,359	(14.3)%	3,922	79%
1981	118	8,477	(9.6)%	3,630	73%
1982	323	8,800	(7.1)%	3,520	70%
1983	253	9,053	(2.6)%	3,530	71%
1984	725	9,778	(4.2)%	3,658	73%
1985	738	10,516	(3.7)%	3,792	76%
1986	857	11,373	(1.7)%	4,030	81%
1987	331	11,704	(3.7)%	4,001	80%
1988	673+	12,377	(3.9)%	4,070	81%
1989	847	13,224	(5.1)%	4,134	83%
1990	837	14,061	(4.7)%	4,200	84%
1991	388	14,449	(4.7)%	4,122	82%
1992	1,282	15,731	(3.1)%	4,354	87%
1993	1,333	17,064	(3.0)%	4,585	92%
1994	1,380	18,444	(2.5)%	4,835	97%
1995	510	18,954	(3.0)%	4,822	96%
1996	510	19,464	(2.8)%	4,819	96%
1997	3,591	23,055	(2.3)%	5,580	112%
1998	857	23,912	(1.7)%	5,692	114%
1999	2,002	25,914	(2.0)%	6,050	121%
2000	1,358	27,272	(3.7)%	6,141	123%
2001	1,881	29,153	(3.2)%	6,355	127%
2002	1,151	30,304	(1.1)%	6,536	131%
2003	801	31,105			

* *The $5,000 benefit used to begin this schedule is an arbitrary amount. A smaller beginning amount (the 1970 average was less) would show a smaller purchasing power loss, in percent loss.*

\# *Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).*

\+ *For members retired in 1972 & later (members retired in 1970 received a larger percentage increase).*

BENEFIT CHANGES DURING RECENT YEARS OF RETIREMENT & RELATED CHANGES IN PURCHASING POWER (1980 $)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				1980 $	% of 1980
1980	- - - -	$ 5,000	- - - -	$ 5,000	100%
1981	$ 75	5,075	(9.6)%	4,632	93%
1982	152	5,227	(7.1)%	4,456	89%
1983	152	5,379	(2.6)%	4,471	89%
1984	431	5,810	(4.2)%	4,633	93%
1985	438	6,248	(3.7)%	4,802	96%
1986	509	6,757	(1.7)%	5,103	102%
1987	197	6,954	(3.7)%	5,067	101%
1988	400	7,354	(3.9)%	5,154	103%
1989	503	7,857	(5.1)%	5,236	105%
1990	497	8,354	(4.7)%	5,319	106%
1991	230	8,584	(4.7)%	5,220	104%
1992	762	9,346	(3.1)%	5,513	110%
1993	792	10,138	(3.0)%	5,806	116%
1994	820	10,958	(2.5)%	6,123	122%
1995	303	11,261	(3.0)%	6,107	122%
1996	303	11,564	(2.8)%	6,103	122%
1997	1,657	13,221	(2.3)%	6,821	136%
1998	1,214	14,435	(1.7)%	7,324	146%
1999	323	14,758	(2.0)%	7,344	147%
2000	1,039	15,797	(3.7)%	7,583	152%
2001	1,220	17,017	(3.2)%	7,907	158%
2002	672	17,689	(1.1)%	8,132	163%
2003	468	18,157			

* *The $5,000 benefit used to begin this schedule is an arbitrary amount. A smaller beginning amount would show a smaller purchasing power loss, in percent loss.*

\# *Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).*

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BENEFIT CHANGES DURING RECENT Y

EARS OF RETIREMENT
& RELATED CHANGES IN PURCHASING POWER (1990 $)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power At Year End	
				1990 $	% of 1990
1990	- - - -	$ 5,000	- - - -	$ 5,000	100%
1991	$ 150	5,150	(4.7)%	4,919	98%
1992	457	5,607	(3.1)%	5,195	104%
1993	475	6,082	(3.0)%	5,471	109%
1994	492	6,574	(2.5)%	5,770	115%
1995	182	6,756	(3.0)%	5,755	115%
1996	182	6,938	(2.8)%	5,751	115%
1997	330	7,268	(2.3)%	5,889	118%
1998	667	7,935	(1.7)%	6,324	126%
1999	177	8,112	(2.0)%	6,340	127%
2000	849	8,961	(3.7)%	6,756	135%
2001	826	9,787	(3.2)%	7,143	143%
2002	387	10,174	(1.1)%	7,346	147%
2003	270	10,444			

* *The $5,000 benefit used to begin this schedule is an arbitrary amount. A smaller beginning amount would show a smaller purchasing power loss, in percent loss.*

\# *Based on Consumer Price Index, All Urban Consumers, United States City Average (June values)*

SECTION A

Financial Principles

Promises Made and To Be Paid For. As each year is completed, the System, in effect, hands an "IOU" to each member then acquiring a year of service credit. The "IOU" says: "The Arkansas Teacher Retirement System owes you one year's worth of retirement benefits, payments in cash commencing when you qualify for retirement."

The related ***key financial questions*** are:

Which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member's present year of service?

Or the future taxpayers, who happen to be in Arkansas at the time the IOU becomes a cash demand?

The financial objective of the ATRS is that this year's taxpayers contribute the money to cover the IOUs being handed out this year so that ***the employer contribution rate will remain approximately level from generation to generation*** -- our children and our grandchildren will not have to contribute greater percents of pay than we contribute now. This objective was set forth in Act 793 of 1977.

(There are systems which have ***a design for deferring contributions to future taxpayers***, lured by a lower contribution rate now and putting aside the fact that the contribution rate must then relentlessly grow much greater over decades of time -- consume now, and let your children face higher contribution rates after you retire.)

An inevitable byproduct of the level-cost design is the accumulation of reserve assets for decades and the income produced when the assets are invested. ***Investment income*** becomes the ***3rd and largest contributor*** for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

> Normal Cost (the cost of members' service being rendered this year)
> ... plus ...
> Interest on Unfunded Actuarial Accrued Liabilities (unfunded accrued liabilities are the difference between (i) liabilities for service already rendered and (ii) the accrued assets of the plan).

Computing Contributions to Support System Benefits. From a given schedule of benefits and from the employee data and asset data furnished, the actuary determines the contribution rates to support the benefits, by means of ***an actuarial valuation***.

An actuarial valuation has a number of ingredients such as: the rate of investment income which plan assets will earn; the rates of withdrawal of active members who leave covered employment before qualifying for any monthly benefit; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement.

In an actuarial valuation, assumptions must be made as to what the above rates will be, for the next year and for decades in the future. Only the subsequent actual experience of the System can indicate the degree of accuracy of the assumptions.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the accuracy of the various financial assumptions or the skill of the actuary and the precision of the calculations made. The System copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continual adjustments in financial position.

THE ACTUARIAL VALUATION PROCESS

The financing diagram on the next page shows the relationship between the two fundamentally different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program), and is thus an ***increasing contribution method***; and the ***level contribution method*** which equalizes contributions between the generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

A. ***Census Data***, furnished by plan administrator
   Retired lives now receiving benefits
   Former employees with vested benefits not yet payable
   Active employees

B. + ***Asset data*** (cash & investments), furnished by plan administrator

C. + **Benefit provisions** that establish eligibility and amounts of payments to members

D. + ***Assumptions concerning future financial experiences in various risk areas***, which assumptions are established by the Board of Trustees after consulting with the actuary.

E. + ***The funding method*** for employer contributions (the long-term planned pattern for employer contributions)

F. + ***Mathematically combining the assumptions, the funding method, and the data***

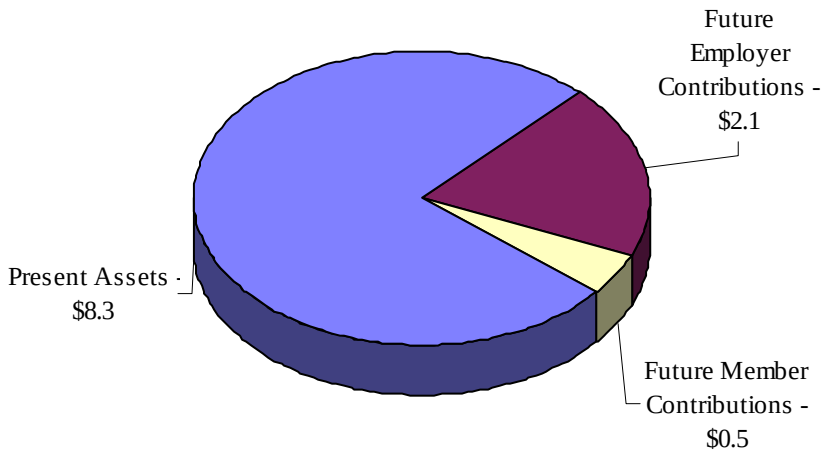
G. = Determination of:
   Plan financial position, and/or
   New Employer Contribution Rate

SECTION B

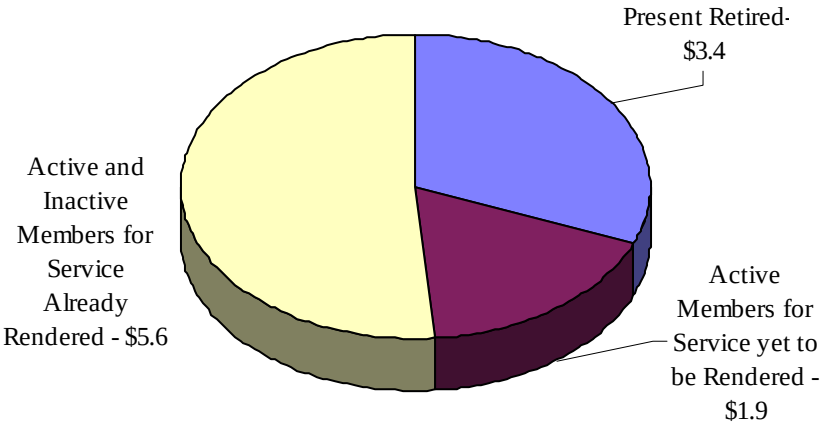
Results of Valuation

FINANCING $10.9 BILLION* OF BENEFIT PROMISES FOR PRESENT ACTIVE AND RETIRED MEMBERS JUNE 30, 2002

Sources of Funds



Uses of Funds



* *Present value of future benefits. All amounts are in billions.*

EMPLOYER CONTRIBUTION RATE COMPUTED AS OF JUNE 30, 2002 FOR THE FISCAL YEAR BEGINNING JULY 1, 2003

Computed Contributions for	Percents of Active Member Full Payroll			
	Teachers	Support	Combined	Prior Year
Normal Cost				
Age & Service Annuities	11.26%	9.52%	**10.83%**	12.42%
Deferred Annuities	1.49%	2.00%	**1.62%**	1.51%
Survivor Benefits	0.24%	0.24%	**0.24%**	0.52%
Disability Benefits	0.66%	0.59%	**0.64%**	0.37%
Refunds of Member Contributions	0.32%	0.54%	**0.37%**	0.33%
Total	13.97%	12.89%	**13.70%**	15.15%
Average Member Contributions	4.24%	2.80%	**3.88%**	3.98%
Net Employer Normal Cost	9.73%	10.09%	**9.82%**	11.17%
Unfunded Actuarial Accrued Liabilities			**2.18%**	0.83%
Employer Contribution Rate			**12.00%**	12.00%
Amortization Years			**38.0**	125.0

The length of an amortization period is a matter of judgment, not a matter of solving an algebraic equation. No one amortization period is "correct" --- there is a range of reasonable judgment. In its pursuit of level-percent contributions, the Teacher Retirement System has used a variety of amortization periods from time to time, extending to 40 years on occasions. This year's result is not directly comparable with the prior years' due to a change in assumptions. Experience was poor this year for ATRS, as it was for most plans in the country. As unrealized investment losses flow into the valuation over the next several years, the amortization period is likely to increase rapidly. **Based on the current investment outlook, an increase in the contribution rate to the 14% area or higher will almost certainly be needed to maintain the funding program. The employer rate was close to 14% in the mid 1980s.**

COMPUTED EMPLOYER CONTRIBUTION RATES
10 -YEAR COMPARATIVE STATEMENT

Valuation Date June 30	Active Members in Valuation		Average Annual Pay		Consumer Price (Inflation) Index		Employer Contributions	
	Number	Annual Payroll	Amount	% Change	Value	%Change	Computed Financing Period	Total Employer Rate
1991#*	45,902	$ 909	$ 19,796	0.1 %	136.0	4.7 %	11	12.0 %
1992#	55,688	1,077	19,338	(2.3)%	140.2	3.1 %	30	12.0 %
1993#	58,519	1,120	19,145	(1.0)%	144.4	3.0 %	30	12.0 %
1994*	57,403	1,167	20,337	6.2 %	148.0	2.5 %	29	12.0 %
1995@	58,876	1,234	20,952	3.0 %	152.5	3.0 %	24	12.0 %
1996	56,100	1,260	22,463	7.2 %	156.7	2.8 %	16	12.0 %
1997#	56,997	1,302	22,847	1.7 %	160.3	2.3 %	13	12.0 %
1998#*&	58,528	1,368	23,380	2.3 %	163.0	1.7 %	12	12.0 %
1999#	59,499	1,429	24,019	2.7 %	166.2	2.0 %	4	12.0 %
2000#	60,147	1,485	24,696	2.8 %	172.4	3.7 %	22	12.0 %
2000#!	60,147	1,485	24,696	2.8 %	172.4	3.7 %	30	12.0 %
2001	61,389	1,557	25,365	2.7 %	178.0	3.2 %	125	12.0 %
2002	62,011	1,628	26,254	3.5 %	179.9	1.1 %	Cannot be Financed	12.0 %
2002&	62,011	1,628	26,254	3.5 %	179.9	1.1 %	38	12.0 %

* *Revised financial assumptions.*
\# *Legislated benefit increases.*
@ *Revised asset valuation method.*
& *Revised decrement assumptions.*
! *Benefit increases proposed for 2001 and assuming 8% investment return for Fiscal Year Ended 6/30/2001.*

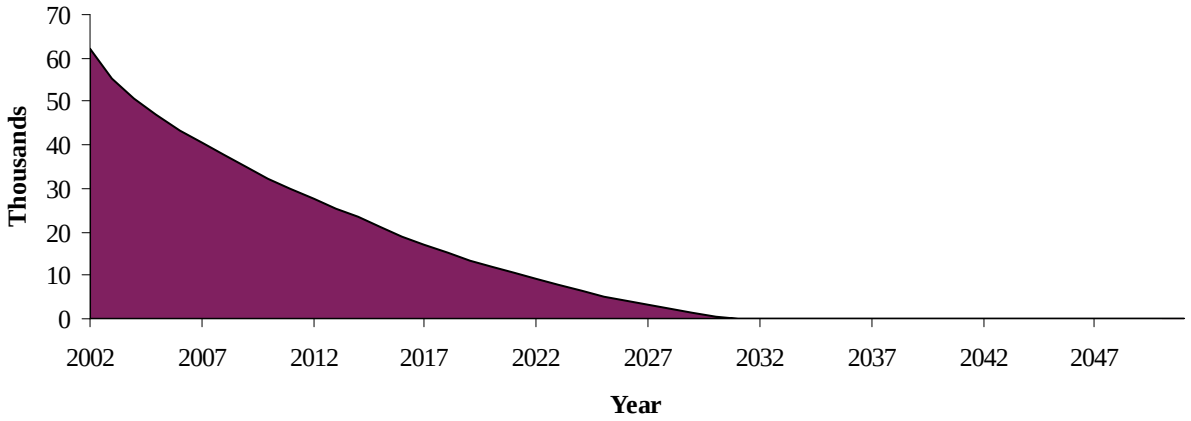
In the Arkansas Teacher Retirement System, the Change in Average pay statistic has been affected by the influx of new non-teaching support employees. This influx has been a contributing factor to the growth of the active member population in recent years.

COMPUTED ACTUARIAL LIABILITIES
AS OF JUNE 30, 2002

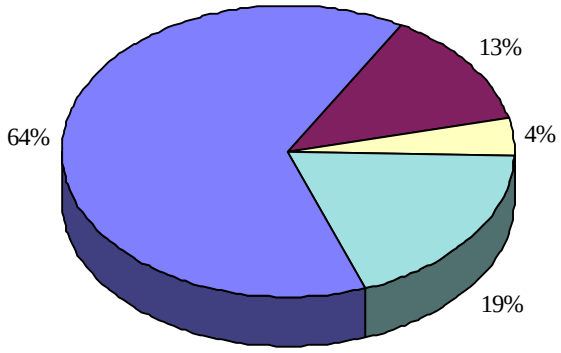
Actuarial Present Value of	(1) Total Present Value	Entry Age Actuarial Cost Method (2) Portion Covered By Future Normal Cost Contributions	Entry Age Actuarial Cost Method (3) Actuarial Accrued Liabilities (1)-(2)
Age and service retirement and T-Drop allowances based on Total service likely to be rendered by present active and T-Drop members	$6,654,857,218	$1,445,607,407	$5,209,249,811
Vested Deferred Benefits likely to be paid present active and inactive members	555,166,478	224,333,913	330,832,565
Survivor benefits expected to be paid on behalf of present active members.	70,232,263	31,741,596	38,490,667
Disability Benefits expected to be paid on behalf of present active members	169,620,755	88,208,836	81,411,919
Refunds of Member contributions expected to be paid on behalf of Present active members	10,448,618	49,665,268	(39,216,650)
Benefits payable to present retirees and beneficiaries	3,440,732,010	0	3,440,732,010
Total	$10,901,057,342	$1,839,557,020	$9,061,500,322
Applicable Assets	8,328,451,257	0	8,328,451,257
Liabilities to be Covered by Future Contributions	$2,572,606,085	$1,839,557,020	$733,049,065

EXPECTED DEVELOPMENT OF PRESENT POPULATION
JUNE 30, 2002

Closed Group Population Projection

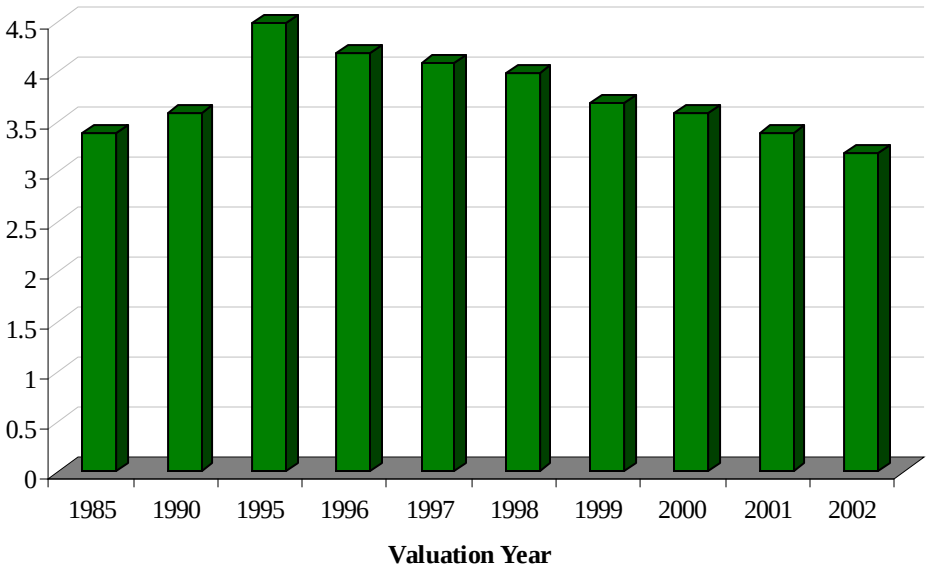


Closed Group Population Projection

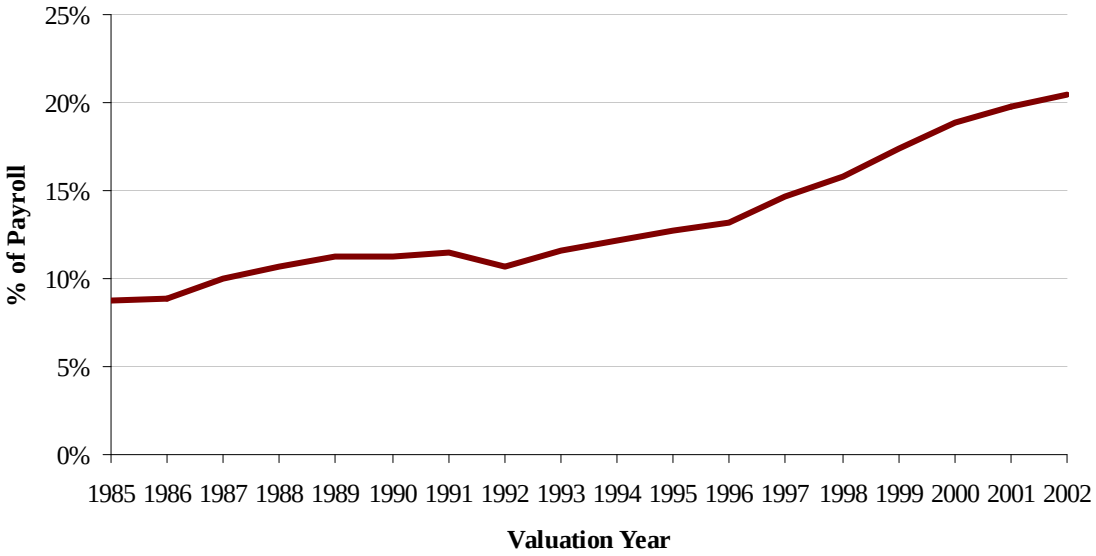


The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 62,011 active members. Eventually, 13% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. Approximately 83% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, retiring from T-Drop, or retiring from vested deferred status. 4% of the present population is expected to become eligible for death-in-service or disability benefits. Within 10 years, over half of the covered membership is expected to consist of new hires.

Active Members Per Retired Life



Retirement Benefits Being Paid as a Percent of Member Payroll



SHORT CONDITION TEST

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

A short condition test is one means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with: 1) Member contributions on deposit; 2) The liabilities for future benefits to present retired lives; 3) The liabilities for service already rendered by members. In a system that has been following the discipline of level percent of payroll financing, the liabilities for member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by members (liability 3) will be partially covered by the remainder of present assets. The larger the funded portion of liability 3, the stronger the condition of the system. Liability 3 being fully funded is unusual.

The schedule below illustrates the history of liability 3 of the System and is indicative of the TRS objective of following the discipline of level percent of payroll financing.

Val. Date June 30	(1) Member Contrb.	(2) Retirees and Benef.	(3) Active and Inactive Members (Employer Financed Portion)	Present Valuation Assets	Portion of Present Values Covered by Present Assets			
					(1)	(2)	(3)	Total
		----------$ Millions----------						
1991#*	$ 344	$ 985	$1,433	$ 2,434	100%	100%	77%	88%
1992#	367	1,077	1,885	2,729	100%	100%	68%	82%
1993#	388	1,207	2,117	3,051	100%	100%	69%	82%
1994	403	1,334	2,223	3,307	100%	100%	71%	84%
1995*	415	1,488	2,354	3,626	100%	100%	73%	85%
1996	424	1,634	2,577	4,186	100%	100%	83%	90%
1997#	426	1,918	3,059	4,956	100%	100%	85%	92%
1998#	435	2,173	3,553	5,815	100%	100%	90%	94%
1999#	447	2,566	3,821	6,740	100%	100%	98%	99%
2000	454	2,804	4,322	7,620	100%	100%	101%	101%
2000#	454	2,888	4,537	7,620	100%	100%	94%	97%
2001#	470	3,200	4,891	8,166	100%	100%	92%	95%
2002	490	3,464	5,216	8,328	100%	100%	84%	91%
2002*	490	3,441	5,131	8,328	100%	100%	86%	92%

* *Revised actuarial assumptions or methods.*
\# *Legislated benefit increase.*

SECTION C

Summary of Benefits

1. **Voluntary Retirement.** A member may retire at age 60 with 5 or more years of credited service, or after 28 years of credited service regardless of age.

2. **Early Retirement.** A member who has more than 25 but less than 28 years of credited service and has not attained age 60 years may retire and receive an immediate early retirement annuity. The early annuity is an age & service annuity reduced by the lesser of (i) and (ii) below:

   (i) 5/12 of 1% multiplied by the number of months by which early retirement precedes completion of 28 years of service or

   (ii) 5/12 of 1% multiplied by the number of months by which early retirement precedes the attainment of age 60 years.

3. **Deferred Retirement.** An inactive member who has 5 or more years of credited service will be entitled to an age & service annuity beginning at age 60, provided accumulated contributions are left on deposit with the retirement system.

4. **Disability Retirement.** An active member, with 5 or more years of credited service, who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age & service annuity.

5. **Final Average Salary (FAS).** A member's final average salary is the average of the annual salaries paid during the period of 3 years of credited service producing the highest annual average.

6. **Age & Service Annuity and Disability Annuity.** The annuity payable will not be less than the total of: years of contributory service times 2.15% of FAS; plus years of non-contributory service times 1.39% of FAS; plus $900. For a member who elected to contribute on only the first $7,800 of each annual salary after June 30, 1969, each annual salary used in computing FAS is limited to a maximum of $7,800.

7. **Minimum Straight Life Annuity.** If a contributory member has 5 or more years of credited service, the straight life annuity will not be less than $100 per month. The minimum benefit for a non-contributory member is $64 per month. If a contributory member has 10 or more

years of credited service, the straight life annuity will not be less than $150 per month. The minimum benefit for a non-contributory member is $44 per month.

8. **T-Drop.** A member with 28 or more years of service may participate in the Teacher Deferred Retirement Option Plan (T-Drop, Act 1096 of 1995). An amount equal to the amount that would have been paid had the member retired, reduced by 1% for each year of contributory service (1/2% for service over 30 years - effective 1997) and 6/10% for each year of non-contributory service (3/10% for service over 30 years - effective 1997), is deposited into a T-Drop account. Members who enter T-Drop with less than 30 years of service are subject to an additional 6% reduction for each year less than 30 years. Members over age 65 receive the full benefit without reduction. The annual addition to the T-Drop account is increased each year by 3% of the member's annuity at the initial participation date and the account is credited with 6% interest (on the median balance) each year. T-Drop participants may continue in covered employment, but do not accumulate additional service credit or make member contributions. The maximum period of participation is 10 years. Upon actual retirement the member may receive the T-Drop account balance in the form of a lump sum or as an additional annuity.

9. **Post-Retirement Increases.** Each July 1, every member's annuity is adjusted to be equal to the base annuity times 100% plus 3% for each full year in the period from the effective date of the base annuity to the current July 1. The base annuity is the amount of the member's annuity on the later of April 1, 1997 or the effective date of retirement, as redetermined by Acts 396 and 992.

10. **Survivor Benefits.** Upon the death of an active member, who has 5 or more years of credited service (which includes the year immediately preceding his death), the following annuities are payable:

    (a) The surviving spouse receives an annuity computed in the same manner as if the member had (i) retired the date of his death with entitlement to an annuity, (ii) elected Option A - 100% Survivor Annuity, and (iii) nominated the spouse as joint beneficiary. If the member has attained age 60 and has acquired 10 years of credited service or has acquired 20 years of credited service regardless of age, the annuity begins immediately; or, if the member has acquired 15 years of credited service but has not attained age 60, the annuity begins when the spouse is 50; otherwise the annuity begins at age 62. The spouse's annuity cannot be less than

the greater of (i) 10% of the deceased member's covered salary at time of death or (ii) $50 monthly. Under certain circumstances, a lump sum distribution may be made to the beneficiary(ies) of the deceased member.

(b) Each dependent child receives an annuity of the greater of (i) 10% of covered salary at the time of death or (ii) $50 monthly; provided, that if there are 3 or more dependent children, each receives an annuity of an equal share of the greater of (i) 25% of covered salary at time of death or (ii) $125 monthly. A child is dependent until the child's death, marriage, or attainment of age 18 (age 23 if the child is a full-time student).

(c) If there is neither a spouse nor a dependent child at the time of the member's death, each dependent parent receives an allowance of the greater of (i) 10% of covered salary or (ii) $50 monthly.

(d) Survivor benefits based on both contributory and non-contributory service will be prorated between contributory benefits and non-contributory benefits.

11. **Lump Sum Death Benefit.** Beneficiaries of deceased members with 5 or more years of service are eligible to receive a lump sum death benefit of up to $10,000 ($6,667 for non-contributory service -benefit is prorated). In addition, dependent children of deceased members with 5 or more years of service are eligible to receive a lump sum death benefit of $10,000.

12. **Members' Contributions.** Members contribute 6% of their salaries (by individual election, members who became members before July 1, 1971 could contribute on only the first $7,800 of their annual salaries). If a member leaves service prior to becoming eligible to retire, the accumulated contributions are returned upon request. No interest is credited to a member's contributions for the first year of membership; after 1 year, interest credits are 6% annually. Effective July 1, 1993, a non-contributory plan was created and all new members including any former active members were automatically non-contributory members. By individual election, members could choose to contribute. The benefit accrual rate for non-contributory members is reduced. Effective 7/1/1999 the default choice for new members is contributory. All current members had until 7/1/2000 to make a final election. Effective July 1, 1997 all future member contributions are tax-deferred in accordance with §414(h) of the Internal Revenue Code of the United States.

13. **Act 808 Retirement.** Any employee of a state agency who was an active member of the Arkansas Teacher Retirement System on April 8, 1987, and who qualified for retirement before January 1, 1988, could become a member of the Arkansas Public Employees Retirement System and retire from that system. All credited service was transferred to that system but the member's contributions were retained by the Arkansas Teacher Retirement System and the benefit amount is transferred monthly to the Arkansas Public Employees Retirement System.

14. **Act 793 Retirement.** Any employee who was a member of the rehabilitation services in 1977 was permitted to become a member of the Arkansas Public Employees Retirement System. Liabilities associated with prior service earned through 6/30/1978 remain in the Arkansas Teacher Retirement System. Future service is allocated to the Arkansas Public Employees Retirement System.

15. **Retiree Health Stipend.** Each retired member receives $75 per month toward retiree health care premiums. Member in T-DROP receive a deposit of $75 per month reduced by the same amount as their original T-DROP reduction (see prior page).

SAMPLE BENEFIT COMPUTATIONS FOR A MEMBER RETIRING JUNE 30, 2002

The data for the Example member is shown below.

A.	$35,000	Final Average Compensation
B.	32	Total Service Credit
C.	27	Contributory Service Credit
D.	60	Age of Retiree
E.	55	Age of Spouse
F.	100%	Percentage of Retirement Allowance to Continue to Spouse after Retiree's Death (Retiree Chooses this Percentage)

The computations that would be made for this case are:

			Annual Amount
G.	Non-Contributory Base:	0.0139 x A x B	$15,568
H.	Extra for Contributory:	0.00760 x A x C	7,182
I.	Total Benefit: G + H		22,750
J.	Adjustment for Line F election: (1 - 0.83037) x I		3,859
K.	Annual Amount Payable		$18,891

Projected Benefits, taking into account increases after retirement would be:

Year Ended June 30	**Amount Paid**
2003	$18,891
2004	19,458
2005	20,025
2006	20,592
2007	21,159

Thereafter, the amount would increase by $567 annually for life.

SAMPLE T-DROP BENEFIT COMPUTATIONS FOR A MEMBER ENTERING T-DROP JUNE 30, 2002

The data for the Example member is shown below.

A.	$35,000	Final Average Compensation
B.	28	Total Service Credit
C.	28	Contributory Service Credit
D.	55	Age of Retiree

The computations that would be made for this case are:

		Annual Amount
E.	Non-Contributory Base: 0.0139 x A x B	$13,622
F.	Extra for Contributory: 0.00760 x A x C	7,448
G.	Reduction for T-DROP Plan: (1% for each year of contributory service) 0.28 x (E+F)	5,900
H.	Reduction for Entering T-DROP with less than 30 years of service (6% for each year less than 30): 0.12 x (E + F)	2,528
I.	Annual Amount Payable E + F – G – H	$12,642

Projected Deposits, taking into account increases after DROP, and 5 years duration would be:

Year Ended June 30	Amount Deposited
2003	$12,642
2004	13,021
2005	13,400
2006	13,779
2007	14,158
Total	67,000

The total amount deposited, together with credited interest can be paid as a lump sum or as an annuity.

SECTION D

Financial Information and GASB Reporting

ARKANSAS TEACHER RETIREMENT SYSTEM
ASSET VALUATION METHOD

An essential step in the valuation process is comparing valuation assets with computed liabilities. Valuation assets are those assets that are recognized for funding purposes.

Asset valuation methods are distinguished by the timing of the recognition of investment income. Total investment income is the sum of ordinary income and capital value changes. Under a pure market value approach, ordinary investment income and all capital value changes would be recognized immediately. Because of market volatility, use of pure market values in retirement funding can result in volatile contribution rates and unstable financial ratios, contrary to ATRS objectives.

Under the ATRS asset valuation method (see page D-2), assumed investment return is recognized fully each year. Differences between actual and assumed investment return are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, the funding value will tend to be less than the market value. Conversely, during periods when investment performance is less than the assumed rate, funding value will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

A multi-year comparison of market value to funding (actuarial) value is shown below:

Valuation Date June 30	Market Value of (1)	Actuarial Value of Assets (2)	Ratio of AV to MV (2) / (1)
1995	$4,000	$3,626	91%
1996	4,750	4,186	88%
1997	5,747	4,956	86%
1998	6,656	5,815	87%
1999	7,403	6,740	91%
2000	7,978	7,620	96%
2001	7,643	8,166	107%
2002	7,084	8,328	118%

The funding value of assets now exceeds the market value by 18%. Present market conditions can lead to a situation where the recognized assets might deviate greatly from the market value. To prevent this, we recommended adding a requirement that the recognized assets must always be between 80% and 120% of the market value.

DEVELOPMENT OF FUNDING VALUE OF ASSETS

Year Ended June 30:	2000	2001	2002	2003	2004	2005
A. Funding Value Beginning of Year	$6,740,084,341	$7,619,736,770	$8,166,235,989			
B. Market Value End of Year	7,978,068,238	7,642,865,577	7,084,325,012			
C. Market Value Beginning of Year	7,402,762,051	7,978,068,238	7,642,865,577			
D. Non-Investment Net Cash Flow	(56,353,945)	(76,534,107)	(94,448,106)			
E. Investment Return						
E1. Market Total: B - C - D	631,660,132	(258,668,554)	(464,092,459)			
E2. Amount for Immediate Recognition (8%)	536,952,589	606,517,577	649,520,955			
E3. Amount for Phased-In Recognition: E1-E2	94,707,543	(865,186,131)	(1,113,613,414)			
F. Phased-In Recognition of Investment Return						
F1. Current Year: 0.25 x E3	23,676,886	(216,296,533)	(278,403,354)	Unknown	Unknown	Unknown
F2. First Prior Year	78,165,420	23,676,886	(216,296,533)	$ (278,403,354)	Unknown	Unknown
F3. Second Prior Year	130,969,976	78,165,420	23,676,886	(216,296,533)	$ (278,403,358)	Unknown
F4. Third Prior Year	166,241,503	130,969,976	78,165,420	23,676,886	(216,296,536)	$ (278,403,350)
F5. Total Recognized Investment Gain	**399,053,785**	**16,515,749**	**(392,857,581)**	**(471,023,001)**	**(494,699,894)**	**(278,403,350)**
G. Funding Value End of Year:						
G1. Preliminary Funding Value End of Year: A+D+E2+F5	**7,619,736,770**	**8,166,235,989**	**8,328,451,257**			
G2. Upper Corridor Limit: 120% x B			**8,501,190,014**			
G3. Lower Corridor Limit: 80% x B			**5,667,460,010**			
G3. Funding Value End of Year			**8,328,451,257**			
H. Actual/Projected Difference between Market and Funding Value	358,331,468	(523,370,412)	(1,244,126,245)	(773,103,244)	(278,403,350)	-
I. Market Rate of Return	8.57 %	(3.26)%	(6.11)%			
J. Funding Rate of Return	13.95%	8.22%	3.16%			
K. Ratio of Funding Value to Market Value	96%	107%	118%			

The Funding Value of Assets recognizes assumed investment return (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. *The Funding Value of Assets is unbiased with respect to Market Value.* At any time it may be either greater or less than Market Value. If assumed rates are exactly realized for 3 consecutive years, it will become equal to Market Value.

The assets of the Retirement System, as of June 30, 2002, were reported to your actuary to be $7,084,325,012. This amount, together with a market value adjustment of $1,244,126,245, is used to finance the Retirement System liability.

Accounts	Assets at June 30	
	2002	2001
Regular Accounts		
Members' Deposit Accounts		
Contributions	$ 471,697,235	$ 449,813,190
Interest	3,583,501,829	3,866,557,674
Total	4,055,199,064	4,316,370,864
T-Drop Member Deposit Accounts		
Contributions	18,515,453	20,145,718
Interest	65,388,014	65,353,902
Total	83,903,467	85,499,620
Employer's Accumulation Account	(182,362,214)	174,823,939
Retirement Reserve Account	2,828,171,224	2,806,913,107
Act 808 Retirement Reserve Account	30,090,305	35,325,540
T-Lump Payable	207,017,273	153,510,100
Survivors Benefit Account	40,558,294	49,265,415
Total Regular Accounts	7,062,577,413	7,621,708,585
Other Accounts		
Income Expense Account	21,747,599	21,156,992
Other Special Reserves	0	0
Miscellaneous	0	0
Total Other Accounts	21,747,599	21,156,992
Total Accounting Value of Assets	7,084,325,012	7,642,865,577
Market Value Adjustment	1,244,126,245	523,370,412
Funding Value of Assets	$8,328,451,257	$8,166,235,989

In financing the Retirement System Accrued Liabilities, the applicable assets have been applied as follows.

	Assets Applied to Accrued Liabilities for			
	Retirees and Beneficiaries	**Active and Inactive Members**	**T-Drop Members**	**Totals**
Reserve Assets				
Member's Deposit Account	$ 0	$4,055,199,064	$ 83,903,467	$4,139,102,531
Employer's Accumulation Account	541,912,187	(1,830,670,181)	1,106,395,780	(182,362,214)
Retirement Reserve Account	2,828,171,224	0	0	2,828,171,224
Act 808 Reserve Account	30,090,305	0	0	30,090,305
T-Lump Payable	0	0	207,017,273	207,017,273
Survivor's Benefit Account	40,558,294	0	0	40,558,294
Other Accounts	0	21,747,599	0	21,747,599
Total Reserve Assets	3,440,732,010	2,246,276,482	1,397,316,520	7,084,325,012
Market Value Adjustment	0	1,244,126,245	0	1,244,126,245
Funding Value of Assets	$3,440,732,010	$3,490,402,728	$1,397,316,520	$8,328,451,257

The net market value of assets at year end was $7,084,325,012 and was invested as shown below.

	Market Value at June 30	
	2002	2001
Cash	$ 7,911,235	$ 6,913,608
Receivables		
Unsettled Trades and Accrued Return	329,658,790	261,417,068
Member Contributions	8,476,251	7,094,333
Employer Contributions	5,450,173	4,566,327
Other	303	151,037
Total Receivables	343,585,517	273,228,765
Investments		
Short Term	0	0
Common and Preferred	3,868,313,245	5,036,619,062
International	891,824,907	964,098,594
Corporate Bonds	525,953,219	0
Alternative Investments	948,919,262	969,605,925
Market Valuation	(132,712,441)	288,422,790
Real Estate	127,616,281	96,612,475
Mortgage Loans	243,777,265	0
Revenue Bonds	1,285,000	3,155,000
Government Securities	491,101,500	0
Other Investments	140,439,591	305,003,396
Repurchase Agreements	0	0
Total Investments	7,106,517,829	7,663,517,242
Invested Securities Lending	607,789,389	744,690,799
Net Equipment	2,609,293	1,288,388
Total Assets	8,068,413,263	8,689,638,802
Liabilities		
Escrow Payables	82,990	121,285
Other Payables	1,150,535	301,961,141
Securities Related Payables	375,065,337	0
Securities Lending Collateral	607,789,389	744,690,799
Total Liabilities	984,088,251	1,046,773,225
Net Market Value	7,084,325,012	7,642,865,577
Change from Prior Year	(558,540,565)	(335,202,661)

Assets during the year developed as follows:

MARKET VALUE RECONCILIATION OF ASSETS

	Year Ended June 30	
	2002	**2001**
Net Market Value July 1	$7,642,865,577	$7,978,068,238
Additions		
Employer Contributions	191,352,911	181,115,569
Employee Contribs	71,893,349	68,717,889
Appreciation	(421,135,230)	(435,733,125)
Interest	58,170,648	163,305,403
Dividends	(65,866,964)	55,759,102
Real Estate	6,817,467	5,115,764
Other	673,597	701,624
Securities Lending Activity	4,800,357	3,792,771
Total Additions	(153,293,865)	42,774,997
Deductions		
Age& Service Benfits	291,969,589	265,279,450
Disability Benefits	18,965,804	18,097,625
Option Benefits	7,947,966	6,877,850
Survivor benefits	5,306,397	4,837,322
Reciprocal Service	8,878,504	7,524,324
Act 808	4,261,952	4,152,737
Refunds	2,744,685	2,975,138
Active Member Death	580,689	688,447
TDROP Benefits	17,038,780	15,934,672
Investment Expense	40,198,171	43,355,364
Admin. Expenses	7,354,163	8,254,729
Total Deductions	405,246,700	377,977,658
Miscellaneous	0	0
Net Market Value June 30	$7,084,325,012	$7,642,865,577

HISTORICAL PATTERNS OF INVESTMENT RETURN, PAY INCREASES & INFLATION

Calendar Year Period	Gross Market Returns: Bonds (Long) U.S. Treasury	Bonds (Long) Corp. (S&P AA)	Cash Equiv. (T Bills)	Stocks (S&P 500)	Price Inflation (CPI)	National Average Earnings	Sample Balanced Fund* Total Return (I)	Sample Balanced Fund* Spread: I - NAE - e
1950-59	(0.1)%	1.0 %	1.9 %	19.4 %	2.2 %	4.5 %	10.5 %	5.5 %
1960-69	1.4 %	1.7 %	3.9 %	7.8 %	2.5 %	4.3 %	5.2 %	0.4 %
1970-79	5.5 %	6.2 %	6.3 %	5.9 %	7.4 %	6.9 %	6.3 %	(1.1)%
1980-89	12.6 %	13.0 %	8.9 %	17.5 %	5.1 %	5.8 %	15.1 %	8.8 %
1990-99	8.8 %	8.4 %	4.9 %	18.2 %	2.9 %	4.2 %	13.2 %	8.5 %
2000-2001	12.2 %	11.8 %	4.9 %	(10.5)%	2.5 %	5.1 %	0.1 %	(5.5)%
Last 52 Years	**5.8 %**	**6.2 %**	**5.1 %**	**12.6 %**	**3.9 %**	**5.1 %**	**9.6 %**	**4.0 %#**

* Sample Balanced Fund	
Equities	50%
Bonds - Government	20%
- Corporate	20%
Cash Equivalents	10%
	100%
Fund expenses(e)	0.50%@

 # Historical Spread

Observed spread is very sensitive to the observation period, even over long periods, as illustrated below:

Observation Period	Spread
52 years	4.0%
42 years	3.6%
32 years	4.6%
22 years	7.3%

@ Generally includes administration manager fees and transaction costs.

May vary anywhere from less than 0.3% to over 1.0% from system to system.

SCHEDULE OF FUNDING PROGRESS
(DOLLAR AMOUNTS IN MILLIONS)

Valuation Date June 30	(1) Actuarial Value of Assets	(2) Entry Age AAL	(3) UAAL (2)-(1)	(4) Funding Ratio (1)/(2)	(5) Annual Covered Payroll	(6) UAAL as % of Covered Payroll (3)/(5)
1991+*	$2,434	$2,762	$ 328	88.1%	$909	36.1%
1992+	2,729	3,329	600	82.0%	1,077	55.7%
1993+	3,051	3,712	661	82.2%	1,120	59.0%
1994	3,307	3,960	653	83.5%	1,167	56.0%
1995*	3,626	4,257	631	85.2%	1,234	51.1%
1996	4,186	4,635	449	90.3%	1,260	35.6%
1997+	4,956	5,403	447	91.7%	1,302	34.3%
1998+*	5,815	6,188	373	94.0%	1,368	27.3%
1999+	6,740	6,834	94	98.6%	1,429	6.6%
2000+	7,620	7,879	259	96.7%	1,485	17.4%
2001+	8,166	8,561	395	95.4%	1,557	25.4%
2002	8,328	9,170	842	90.8%	1,628	51.7%
2002*	8,328	9,062	734	91.9%	1,628	45.1%

+ Legislated benefit increase.
** Revised actuarial assumptions.*

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

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

Valuation Date	June 30, 2002
Actuarial Cost Method	Entry age
Amortization Method	Level percent of payroll
Remaining Amortization Period	38 years
Asset Valuation Method	4-year smoothed market 80%/120% corridor
Actuarial Assumptions:	
Investment Rate of Return	8.0%
Cost-of-living adjustments	3.0% Simple
Projected Salary Increases*	4.0% to 10.1%
*Includes wage inflation at	4.0%

SECTION E

Covered Member Data

Active members included in the valuation totaled 62,011 with annual payroll totaling $1,628,005,863.

TOTAL ACTIVE MEMBERS IN VALUATION JUNE 30, 2002 BY MEMBER'S CHOICE OF CONTRIBUTION RATE

Attained Age	Members Contributing Now			Members Not Contributing			Total Members
	Men	Women	Total	Men	Women	Total	
Under 20	5	2	7	25	44	69	76
20-24	129	616	745	259	581	840	1,585
25-29	743	2,644	3,387	394	1,265	1,659	5,046
30-34	753	2,997	3,750	530	2,378	2,908	6,658
35-39	735	3,160	3,895	679	3,460	4,139	8,034
40-44	893	4,042	4,935	930	4,327	5,257	10,192
45-49	1,150	4,796	5,946	919	3,870	4,789	10,735
50-54	1,060	4,524	5,584	811	3,214	4,025	9,609
55-59	703	2,704	3,407	611	1,980	2,591	5,998
60-64	361	1,168	1,529	346	1,059	1,405	2,934
65-69	86	135	221	199	328	527	748
70 & Up	26	29	55	166	175	341	396
	6,644	**26,817**	**33,461**	**5,869**	**22,681**	**28,550**	**62,011**

ACTIVE TEACHERS IN VALUATION JUNE 30, 2002
BY MEMBER'S CHOICE OF CONTRIBUTION RATE

Attained Age	Members Contributing Now			Members Not Contributing			Total Members
	Men	Women	Total	Men	Women	Total	
Under 20	2		2				2
20-24	74	464	538	3	36	39	577
25-29	589	2,045	2,634	92	332	424	3,058
30-34	578	2,181	2,759	221	843	1,064	3,823
35-39	537	2,126	2,663	304	1,028	1,332	3,995
40-44	624	2,706	3,330	407	1,361	1,768	5,098
45-49	867	3,447	4,314	427	1,534	1,961	6,275
50-54	767	3,335	4,102	384	1,290	1,674	5,776
55-59	426	1,692	2,118	219	603	822	2,940
60-64	186	642	828	53	218	271	1,099
65-69	24	52	76	13	15	28	104
70 & Up		7	7	2	2	4	11
Totals	**4,674**	**18,697**	**23,371**	**2,125**	**7,262**	**9,387**	**32,758**

This schedule includes Administrators.

ACTIVE NON-TEACHERS IN VALUATION JUNE 30, 2002
BY MEMBER'S CHOICE OF CONTRIBUTION RATE

Attained Age	Members Contributing Now			Members Not Contributing			Total Members
	Men	Women	Total	Men	Women	Total	
Under 20	3	2	5	25	44	69	74
20-24	55	152	207	256	545	801	1,008
25-29	154	599	753	302	933	1,235	1,988
30-34	175	816	991	309	1,535	1,844	2,835
35-39	198	1,034	1,232	375	2,432	2,807	4,039
40-44	269	1,336	1,605	523	2,966	3,489	5,094
45-49	283	1,349	1,632	492	2,336	2,828	4,460
50-54	293	1,189	1,482	427	1,924	2,351	3,833
55-59	277	1,012	1,289	392	1,377	1,769	3,058
60-64	175	526	701	293	841	1,134	1,835
65-69	62	83	145	186	313	499	644
70 & Up	26	22	48	164	173	337	385
Totals	**1,970**	**8,120**	**10,090**	**3,744**	**15,419**	**19,163**	**29,253**

WOMEN ACTIVE MEMBERS IN VALUATION JUNE 30, 2002
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	46							46	$ 191,114
20-24	1,189	8						1,197	16,528,399
25-29	3,263	645	1					3,909	88,835,281
30-34	2,703	2,173	494	5				5,375	122,712,168
35-39	2,834	1,749	1,516	520	1			6,620	145,115,206
40-44	2,842	2,010	1,435	1,500	580	2		8,369	202,712,167
45-49	1,881	1,704	1,758	1,158	1,374	790	1	8,666	246,807,664
50-54	1,388	1,265	1,507	1,430	895	1,188	65	7,738	232,612,784
55-59	986	665	814	967	653	550	49	4,684	129,566,379
60	146	112	105	137	114	88	10	712	18,428,965
61	103	99	84	91	83	62	8	530	13,177,935
62	106	74	70	69	60	49	6	434	10,592,205
63	64	52	62	56	34	26	6	300	6,661,584
64	80	56	34	28	30	21	2	251	4,634,503
65	57	23	22	19	10	13	5	149	2,867,891
66	66	10	4	3	2	3		88	907,269
67	60	20	8	5	3	4		100	1,362,957
68	49	10	4	1	3	1		68	685,896
69	42	9	3	4				58	581,105
70 & Up	154	31	11	5		1	2	204	1,642,750
Totals	**18,059**	**10,715**	**7,932**	**5,998**	**3,842**	**2,798**	**154**	**49,498**	**$1,246,624,222**

MEN ACTIVE MEMBERS IN VALUATION JUNE 30, 2002
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	30							30	$ 190,930
20-24	383	5						388	4,526,535
25-29	941	195	1					1,137	28,317,248
30-34	589	577	116	1				1,283	36,641,598
35-39	510	383	420	100	1			1,414	43,742,734
40-44	586	373	335	403	126			1,823	58,642,849
45-49	558	389	289	233	411	189		2,069	73,161,077
50-54	493	324	260	215	191	358	30	1,871	68,667,482
55-59	416	290	221	144	107	107	29	1,314	42,959,520
60	65	40	28	18	17	8	5	181	5,223,820
61	77	31	31	16	13	2	4	174	4,990,519
62	63	28	28	8	9	5	3	144	3,855,427
63	56	25	24	9	3	5		122	2,834,642
64	41	28	11	4		1	1	86	1,741,958
65	47	15	14	6	3	2	2	89	1,832,949
66	39	8	1	1		1	1	51	594,324
67	35	10	3	1			1	50	757,637
68	40	11	1					52	578,287
69	39	3	1					43	464,778
70 & Up	133	41	17		1			192	1,657,327
Totals	**5,141**	**2,776**	**1,801**	**1,159**	**882**	**678**	**76**	**12,513**	**$381,381,641**

TOTAL ACTIVE MEMBERS IN VALUATION JUNE 30, 2002
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	76							76	$ 382,044
20-24	1,572	13						1,585	21,054,934
25-29	4,204	840	2					5,046	117,152,529
30-34	3,292	2,750	610	6				6,658	159,353,766
35-39	3,344	2,132	1,936	620	2			8,034	188,857,940
40-44	3,428	2,383	1,770	1,903	706	2		10,192	261,355,016
45-49	2,439	2,093	2,047	1,391	1,785	979	1	10,735	319,968,741
50-54	1,881	1,589	1,767	1,645	1,086	1,546	95	9,609	301,280,266
55-59	1,402	955	1,035	1,111	760	657	78	5,998	172,525,899
60	211	152	133	155	131	96	15	893	23,652,785
61	180	130	115	107	96	64	12	704	18,168,454
62	169	102	98	77	69	54	9	578	14,447,632
63	120	77	86	65	37	31	6	422	9,496,226
64	121	84	45	32	30	22	3	337	6,376,461
65	104	38	36	25	13	15	7	238	4,700,840
66	105	18	5	4	2	4	1	139	1,501,593
67	95	30	11	6	3	4	1	150	2,120,594
68	89	21	5	1	3	1		120	1,264,183
69	81	12	4	4				101	1,045,883
70 & Up	287	72	28	5	1	1	2	396	3,300,077
Totals	**23,200**	**13,491**	**9,733**	**7,157**	**4,724**	**3,476**	**230**	**62,011**	**$1,628,005,863**

SUMMARY OF ACTIVE MEMBERS

	Teachers		Non-Teachers		Total Active Members	
	No.	Payroll	No.	Payroll	No.	Payroll
Women	25,959	$ 931,955,906	23,539	$ 314,668,316	49,498	$ 1,246,624,222
Men	6,799	286,485,418	5,714	94,896,223	12,513	381,381,641
All	32,758	$ 1,218,441,324	29,253	$ 409,564,539	62,011	$ 1,628,005,863

	Teachers	Non-Teachers	Total
Members Contributing Now	23,371	10,090	33,461
Members Not Contributing	9,387	19,163	28,550
All	32,758	29,253	62,011

	Group Averages		
	Women	Men	Total
Age:	43.7 years	44.4 years	43.8 years
Service:	9.6 years	8.9 years	9.4 years
Annual Pay:	$25,185	$30,479	$26,254

ACTIVE MEMBERS IN VALUATION

June 30	Number	Group Averages			Active Member Payroll ($ Millions)
		Age	Service	Annual Earnings	
1986	34,274	40.5	10.6	$19,180	$ 657
1987	34,210	40.9	10.5	19,392	663
1988	38,024	40.8	10.0	19,274	733
1989	38,978	41.1	10.2	19,879	775
1990	41,800	41.3	9.9	19,776	827
1991	45,902	41.5	9.6	19,796	909
1992	55,688	41.3	8.5	19,338	1,077
1993	58,519	41.4	8.6	19,145	1,120
1994	57,402	42.1	9.1	20,337	1,167
1995	58,876	42.4	9.2	20,952	1,234
1996	56,100	43.0	9.8	22,463	1,260
1997	56,997	43.2	9.8	22,847	1,302
1998	58,528	43.4	9.7	23,380	1,368
1999	59,499	43.5	9.8	24,019	1,429
2000	60,147	43.6	9.6	24,696	1,485
2001	61,389	43.7	9.5	25,365	1,557
2002	62,011	43.8	9.4	26,254	1,628

The figures on this historical schedule are affected by the inclusion of new non-teaching employees beginning July 1, 1989.

DEFERRED VESTED MEMBERS AT JUNE 30, 2002
BY ATTAINED AGE

Age	Number	Estimated Annual Benefits	Contribution Balance
Below 40	2,311	$ 7,754,540	$ 4,766,088
40	305	1,157,028	1,086,506
41	296	1,073,596	1,160,224
42	275	1,018,617	1,078,996
43	301	1,211,167	1,471,085
44	315	1,203,978	1,592,877
45	312	1,268,187	1,477,712
46	318	1,444,265	2,104,146
47	295	1,225,872	1,659,682
48	296	1,431,107	2,375,724
49	288	1,331,222	2,020,840
50	272	1,276,052	2,130,291
51	305	1,528,674	2,853,224
52	284	1,282,285	2,410,918
53	279	1,502,240	2,995,424
54	284	1,415,013	3,096,833
55	180	939,555	2,135,173
56	202	1,055,327	2,359,078
57	227	1,084,935	2,900,934
58	184	920,477	2,344,011
59	56	253,782	660,608
60 & Up	274	765,423	1,342,346
Totals	**7,859**	**$32,143,342**	**$46,022,720**

An inactive member is no longer actively working, and has sufficient service credit to qualify for a monthly benefit at retirement age.

MEMBERS PARTICIPATING IN T-DROP AT JUNE 30, 2002
BY ATTAINED AGE

Age	Number	Current T-Drop Contribution	Original T-Drop Contribution
48	4	$ 75,358	$ 74,431
49	16	206,509	201,430
50	95	1,501,168	1,462,393
51	209	3,564,725	3,418,855
52	302	5,269,191	4,965,862
53	363	6,513,660	6,018,598
54	404	7,440,777	6,767,613
55	461	8,898,833	7,899,213
56	289	5,431,099	4,728,284
57	257	5,095,766	4,313,655
58	242	4,923,736	4,168,588
59	223	4,420,020	3,670,738
60	183	3,520,005	2,910,083
61	145	2,755,690	2,293,839
62	91	1,817,094	1,490,044
63	66	1,397,637	1,134,713
64	49	1,060,739	831,757
65	42	907,449	739,387
66	32	648,604	502,697
67	17	367,734	297,451
68	15	322,130	264,132
69	7	176,375	146,232
70	5	131,049	102,431
71	3	90,340	91,441
72	1	21,769	22,620
73	3	54,510	42,845
74	1	19,410	16,031
Totals	**3,525**	**$66,631,377**	**$58,575,363**

A T-Drop member continues to work, but does not accrue service credit towards retirement. The member's FAS is frozen (see page C-2) at time of T-Drop election.

SECTION F

Actuarial Assumptions and Miscellaneous

SUMMARY OF ASSUMPTIONS USED IN ACTUARIAL VALUATIONS FOR THE ARKANSAS TEACHER RETIREMENT SYSTEM ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES AFTER CONSULTING WITH ACTUARY

Economic Assumptions

The investment return rate used in making the valuation was 8.0% per year, compounded annually (net after administrative expenses). This rate of return is not the assumed real rate of return. The real rate of return is the portion of investment return which is more than the wage inflation rate. Considering wage inflation recognition of 4.0%, the 8.0% rate translates to an assumed real rate of return of 4.0%. This rate was first used for the ***June 30, 2002*** valuation.

Pay increase assumptions for individual active members are shown on pages F-8 and F-9. Part of the assumption for each age is for a merit and/or seniority increase, and the other 4.0% recognizes wage inflation. These rates were first used for the ***June 30, 2002*** valuation.

Price inflation is assumed to persist at a level sufficient to produce a 3.0% COLA.

The Active Member Group size is assumed to remain constant at its present level.

Total active member payroll is assumed to increase 4.0% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation. This rate was first used for the ***June 30, 2002*** valuation.

Non-Economic Assumptions

The mortality table used to measure retired life mortality was the 1983 Group Annuity Mortality Table. Related values are shown on page F-4. This table was first used for the ***June 30, 1998*** valuation. For disabled lives, the mortality table is set forward 5 years. The set forward of 5 years was first used for the June 30, 2002 valuation.

The probabilities of retirement for members eligible to retire are shown on page F-5 and F-6. The rates for full retirement were first used in the ***June 30, 2002*** valuation. The rates for reduced retirement were first used in the ***June 30, 2002*** valuation.

The probabilities of withdrawal from service, ***death-in-service*** and ***disability*** are shown for sample ages on pages F-8 and F-9. The withdrawal and disability rates were first used in the **June 30, 2002** valuation. The death-in-service rates were first used in the **June 30, 2002** valuation.

The entry age actuarial cost method of valuation was used in determining accrued liabilities and normal cost.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (the total of principal & interest) which are level percent of payroll contributions.

These cost methods were first used in the June 30, 1986 valuation.

Asset Valuation Method. A market value related asset method is used as described on page D-4. This method was first used in the June 30, 1995 valuation. It was modified following the 1997-2002 Experience Study to include an 80% - 120% market value corridor.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary. Members whose dates of birth were not supplied were assumed to be 40 years old on the valuation date.

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

Non-teacher members were evaluated using non-economic assumptions shown on the following pages. Effective July 1, 1989 non-teacher employees who are newly hired by public schools become members of TRS.

SINGLE LIFE RETIREMENT VALUES

Sample Attained Ages	Present Value of $1.00 Monthly for Life		Present Value of $1 Monthly for Life Increasing 3.0% Annually		Future Life Expectancy (years)		Percent Dying within Next Year	
	Men	Women	Men	Women	Men	Women	Men	Women
40	$142.98	$147.82	$184.74	$193.70	38.46	44.52	0.12 %	0.07 %
45	138.18	144.67	176.24	187.61	33.74	39.69	0.22 %	0.10 %
50	132.10	140.42	165.94	179.79	29.18	34.92	0.39 %	0.16 %
55	124.57	134.74	153.75	169.90	24.82	30.24	0.61 %	0.25 %
60	115.04	127.24	139.16	157.58	20.64	25.67	0.92 %	0.42 %
65	103.26	117.61	122.19	142.67	16.69	21.29	1.56 %	0.71 %
70	90.18	105.53	104.27	125.11	13.18	17.13	2.75 %	1.24 %
75	76.40	91.57	86.27	105.96	10.15	13.37	4.46 %	2.40 %
80	62.65	77.16	69.17	87.10	7.64	10.20	7.41 %	4.29 %
85	50.59	62.99	54.72	69.36	5.73	7.58	11.48 %	6.99 %
Ref:	30 x 1.00	31 x 1.00	30 x 1.00	31 x 1.00				

Sample Attained Ages	Benefit Increasing 3.0% Yearly	Portion of Age 60 Lives Still Alive	
		Men	Women
60	$100.00	100%	100%
65	115.00	94%	97%
70	130.00	85%	93%
75	145.00	72%	86%
80	160.00	54%	73%
Ref		30	31

PROBABILITIES OF RETIREMENT FOR MEMBERS

Retirement Ages	% of Active Participants Retiring with Unreduced Benefits			
	Education		Support	
	Male	Female	Male	Female
48	50%	40%	40%	30%
49	50%	40%	40%	30%
50	10%	10%	7%	10%
51	10%	10%	7%	10%
52	10%	10%	14%	12%
53	13%	13%	16%	15%
54	14%	14%	18%	20%
55	15%	16%	20%	22%
56	15%	16%	22%	22%
57	15%	19%	25%	22%
58	15%	20%	27%	27%
59	20%	25%	35%	40%
60	15%	15%	16%	16%
61	20%	20%	25%	20%
62	30%	25%	35%	30%
63	20%	25%	25%	25%
64	20%	20%	25%	25%
65	35%	35%	35%	40%
66	30%	35%	30%	30%
67	30%	30%	30%	30%
68	30%	30%	30%	30%
69	30%	30%	30%	30%
70	30%	30%	30%	30%
71	30%	30%	30%	30%
72	30%	30%	30%	30%
73	30%	30%	30%	30%
74	30%	30%	30%	30%
75	100%	100%	100%	100%
Ref	827	828	829	830

PROBABILITIES OF REDUCED RETIREMENT FOR MEMBERS

Retirement Ages	% of Active Participants Retiring with Reduced Benefits			
	Education		Support	
	Male	Female	Male	Female
50	2%	2%	2%	2%
51	2%	2%	2%	2%
52	3%	3%	3%	3%
53	4%	4%	4%	4%
54	4%	4%	4%	4%
55	6%	6%	6%	6%
56	9%	5%	9%	5%
57	9%	5%	9%	5%
58	9%	5%	9%	5%
59	9%	5%	9%	5%
60	100%	100%	100%	100%
Ref	826	825	826	825

PROBABILITIES OF T-DROP FOR MEMBERS

Ages	Percent of Eligible Active Members Entering T-Drop within Next Year			
	Education		Support	
	Male	Female	Male	Female
50	40%	45%	30%	20%
51	35%	45%	30%	30%
52	50%	45%	55%	45%
53	50%	45%	55%	50%
54	45%	45%	55%	50%
55	45%	45%	45%	50%
56	45%	40%	45%	50%
57	45%	40%	45%	50%
58	45%	40%	50%	50%
59	45%	40%	50%	50%
60	45%	35%	50%	40%
61	45%	35%	50%	30%
62	40%	35%	50%	30%
63	30%	35%	50%	30%
64	40%	40%	50%	40%
65	50%	50%	50%	50%
66	50%	50%	50%	50%
67	50%	50%	50%	50%
68	50%	50%	50%	50%
69	50%	50%	50%	50%
70	50%	50%	50%	50%
71	50%	50%	50%	50%
72	50%	50%	50%	50%
73	50%	50%	50%	50%
74	50%	50%	50%	50%
75	50%	50%	50%	50%
76	50%	50%	50%	50%
77	50%	50%	50%	50%
78	50%	50%	50%	50%
79	50%	50%	50%	50%
Ref	270	271	272	273

Members entering T-Drop are assumed to remain in T-Drop according to the following table:

Age	Assumed Duration Years
50-56	6
57	5
58	4
59+	3

TEACHERS
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE AND SERVICE RETIREMENT & INDIVIDUAL PAY INCREASES

Sample Ages	Service	Percent of Active Members Separating Within the Next Year					
		Death		Disability		Other	
		Men	Women	Men	Women	Men	Women
	0					32.00%	25.00%
	1					15.00%	12.00%
	2					11.00%	9.00%
	3					7.50%	9.00%
	4					5.00%	7.00%
20	5 & Up	0.02%	0.01%	0.10%	0.09%	4.60%	4.60%
25		0.02%	0.01%	0.10%	0.09%	4.60%	4.84%
30		0.03%	0.02%	0.08%	0.07%	3.94%	4.40%
35		0.04%	0.02%	0.08%	0.07%	3.20%	3.10%
40		0.06%	0.03%	0.14%	0.13%	2.70%	2.20%
45		0.11%	0.05%	0.24%	0.22%	2.08%	2.00%
50		0.20%	0.08%	0.53%	0.47%	1.62%	1.70%
55		0.31%	0.13%	0.88%	0.79%	1.50%	1.50%
60		0.46%	0.21%	1.00%	0.90%	1.50%	1.50%
65		0.78%	0.35%	1.00%	0.90%	1.50%	1.50%
Ref:		30 x 0.5	31 x 0.5	135 x 1	135 x 0.9	136 556	272 558

Age	Pay Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	5.4%	4.0%	9.4%
25	4.4%	4.0%	8.4%
30	3.4%	4.0%	7.4%
35	2.4%	4.0%	6.4%
40	1.7%	4.0%	5.7%
45	1.2%	4.0%	5.2%
50	0.8%	4.0%	4.8%
55	0.4%	4.0%	4.4%
60	0.3%	4.0%	4.3%
65	0.0%	4.0%	4.0%
Ref:	197		

NON-TEACHERS
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE AND SERVICE RETIREMENT & INDIVIDUAL PAY INCREASES

Sample Ages	Service	Percent of Active Members Separating Within the Next Year					
		Death		Disability		Other	
		Men	Women	Men	Women	Men	Women
	0					40.00%	40.00%
	1					30.00%	25.00%
	2					22.00%	18.00%
	3					18.00%	14.00%
	4					13.00%	11.00%
20	5 & Up	0.02%	0.01%	0.10%	0.08%	13.00%	11.00%
25		0.02%	0.01%	0.10%	0.08%	12.00%	11.00%
30		0.03%	0.02%	0.08%	0.07%	10.80%	7.60%
35		0.04%	0.02%	0.08%	0.07%	8.20%	5.40%
40		0.06%	0.03%	0.14%	0.12%	5.80%	4.70%
45		0.11%	0.05%	0.24%	0.19%	4.10%	4.20%
50		0.20%	0.08%	0.53%	0.42%	2.90%	2.80%
55		0.31%	0.13%	0.88%	0.70%	1.90%	1.70%
60		0.46%	0.21%	1.00%	0.80%	1.50%	1.50%
65		0.78%	0.35%	1.00%	0.80%	1.50%	1.50%
Ref:		30 x 0.5	31 x 0.5	135 x 1	135 x 0.8	273 560	274 559

Age	Pay Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	6.1%	4.0%	10.1%
25	5.2%	4.0%	9.2%
30	4.2%	4.0%	8.2%
35	3.6%	4.0%	7.6%
40	2.9%	4.0%	6.9%
45	1.5%	4.0%	5.5%
50	0.6%	4.0%	4.6%
55	0.2%	4.0%	4.2%
60	0.0%	4.0%	4.0%
65	0.0%	4.0%	4.0%
Ref:	198		

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
JUNE 30, 2002

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements are assumed to occur mid-year, with the exception of normal and early retirement and T-DROP, which are assumed to occur at the beginning of the year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Disability and turnover do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Approximation	Adjustments were made to liabilities for T-DROP to allow for a 6% interest accumulation vs. an 8% assumed rate of return.

GLOSSARY

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Accumulated Benefit Obligation. The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarial Present Value of Credited Projected Benefits or Pension Benefit Obligation. The present value of future benefits based on service to date and the effect projected salary increases.

Actuary. A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries. The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation A.S.A. and ultimately to Fellowship with the designation F.S.A. The federal government certifies actuaries to practice under ERISA with the designation of E.A.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.

January 21, 2003

Mr. David Malone, Executive Director
Arkansas Teacher Retirement System
Education Building West
State Capitol Grounds
Little Rock, Arkansas 72201

Re: Report of June 30, 2002 Actuarial Valuation
of Active and Inactive Members

Dear Mr. Malone:

Enclosed are 35 copies of the report. If you need anything else, please call.

Sincerely,

Judith A. Kermans

JAK/TCB/lr
Enclosure