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OKLAHOMA PUBLIC EMPLOYEES RETIREMENT SYSTEM

Oklahoma Uniform Retirement System for Justices & Judges

Actuarial Valuation Report as of July 1, 2020

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October 7, 2020

Board of Trustees
Oklahoma Public Employees Retirement System
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Oklahoma City, OK 73112

Members of the Board:

In this report are submitted the results of the annual valuation of the assets and liabilities of the Uniform Retirement System for Justices and Judges (URSJJ), prepared as of July 1, 2020.

The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2020 and to provide the actuarially determined rate. While not verifying the data at the source, the actuary performed tests for consistency and reasonability.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. A five-year market-related value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded actuarial accrued liability (UAAL) that is being amortized by regular annual contributions as a level percentage of payroll, on the assumption that payroll will increase by 3.25% annually.

An experience study was performed covering the period from July 1, 2016 through June 30, 2019, resulting in several recommendations that were ultimately adopted by the Board of Trustees. The changes to the actuarial assumptions and methods are discussed in detail in the Executive Summary section of this report.

As in recent valuations, liabilities have been calculated without considering future cost of living adjustments (COLAs) and/or stipends in keeping with House Bill 2132 (2011). We note that House Bill 3350 (2020) granted a one-time benefit increase to certain retirees funded by the System. Should funding of future COLAs and/or stipends be provided by the System, the COLAs and/or stipends should be included in the actuarial valuation.

We note that as we prepare this report, the world is in the midst of a pandemic. We have considered available information, but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise the Board in the future of any adjustments that we believe would be appropriate.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared for funding purposes with assumptions and methods that meet the parameters of the Actuarial Standards of Practice, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to factors such as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Because the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

We have prepared the Schedule of Funding Progress and Trend Information shown in the financial section of the Comprehensive Annual Financial Report. We have also reviewed the supplemental medical benefits provided by the System under Section 401(h) of the Internal Revenue Code and have determined that these benefits are subordinate to the retirement benefits as required.

In our opinion, in order for the System to meet all the benefit obligations of the plan for current active and retired members, contributions equal to at least the actuarially determined rate are necessary for future fiscal years. Assuming these contributions are made to the System, from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated. Because the statutory contribution exceeds the actuarially determined rate in this valuation, we recommend the statutory contribution be used to protect against potential future investment and experience losses.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

Alisa Bennett, FSA, EA, FCA, MAAA
President

Brent Banister, PhD, FSA, EA, FCA, MAAA
Chief Actuary

OVERVIEW

The Uniform Retirement System for Justices and Judges ("URSJJ" or "System") provides retirement benefits for all Justices and Judges of the Oklahoma Supreme Court, Court of Criminal Appeals, Workers' Compensation Court, Court of Appeals, and District Courts. URSJJ is administered by the Oklahoma Public Employees Retirement System and its Board of Trustees.

This report presents the results of the July 1, 2020 actuarial valuation for the System. The primary purposes of performing an actuarial valuation are to:

- Determine the employer contribution rate required to fund the System on an actuarial basis;
- Evaluate the sufficiency of the statutory contribution rate;
- Disclose asset and liability measures as of the valuation date;
- Determine the experience of the System since the last valuation date; and
- Analyze and report on trends in System contributions, assets, and liabilities.

We note that as we prepare this report, the world is in the midst of a pandemic. We have considered available information, but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise the Board in the future of any adjustments that we believe would be appropriate.

An experience study was performed that analyzed the experience during the period from July 1, 2016 through June 30, 2019. As a result of that study, several changes to the actuarial assumptions and methods were recommended to the Board of Trustees and adopted, effective with the July 1, 2020 actuarial valuation. Significant assumption changes included:

1) decreasing the price inflation from 2.75% to 2.50%,
2) decreasing the investment return from 7.00% to 6.50%,
3) decreasing the payroll growth from 3.50% to 3.25%, and
4) changing the mortality assumption to reflect recent mortality experience.

The revised set of actuarial assumptions increased the actuarial liability at July 1, 2020 by $11.8 million, or 3.5% of liability, and increased the actuarially determined contribution rate by 7.14% of payroll. Additional details are provided later in this section of the report. The experience study, available on the OPERS website, contains significant discussion on the rationale for the changes.

As in recent valuations, liabilities have been calculated without considering future cost of living adjustments (COLAs) and/or stipends in keeping with House Bill 2132 (2011). Should funding of future COLAs and/or stipends be provided by the System, the COLAs and/or stipends should be included in the actuarial valuation. We note that House Bill 3350 (2020) granted a one-time benefit increase effective July 1, 2020 to certain retirees funded by the System. This *ad hoc* cost-of-living adjustment (COLA) granted members who retired prior to or on July 1, 2015 a 4.0% increase to their benefit amounts, members who retired between July 1, 2015 and July 1, 2018 received a 2.0% increase to their benefit amounts, and members who retired after July 1, 2018 did not receive an increase to their benefit amounts. As a result, the actuarial

accrued liability increased by $5.8 million, and the actuarially determined contribution rate increased by 2.64% of payroll.

The valuation results provide a snapshot view of the System's financial condition on July 1, 2020. Due to the combined impact of the changes in the assumptions and the *ad hoc* COLA granted this year, the actuarial value of assets exceeds the actuarial accrued liability by $21.5 million, down from a $36.6 million excess last year. A detailed analysis of the change in the unfunded actuarial accrued liability from July 1, 2019 to July 1, 2020 is shown on page 5.

The changes in the assets, liabilities, and contributions of the Plan over the last year are discussed in more detail in the following pages.

The highlights of the valuation are shown below:

	Actuarial Valuation Date	
Funded Status $(millions)	**July 1, 2020**	**July 1, 2019**
Actuarial Accrued Liability	$ 333.0	$ 308.6
Actuarial Value of Assets	$ 354.5	$ 345.2
Unfunded Actuarial Accrued Liability	($21.5)	($36.6)
Funded Ratio (Actuarial Value)	106.4%	111.9%
Market Value of Assets	$ 351.0	$ 347.5
Funded Ratio (Market Value)	105.4%	112.6%

There was a liability gain of $0.9 million from demographic experience (0.3% of expected liability), which resulted in an actuarial accrued liability that was lower than expected. The components of this net liability gain are identified on page 6 of this report.

The return on the market value of assets as reported by the System was 4.6% for the year ended June 30, 2020. The actuarial value of assets is determined using a method to smooth investment gains and losses in order to develop more stable contribution rates. The return on the actuarial value of assets was approximately 6.3% which resulted in an actuarial loss of $2.3 million.

The actuarial contribution rate for the employer increased from July 1, 2019 to July 1, 2020:

	Actuarial Valuation Date	
Contribution Rate	**July 1, 2020**	**July 1, 2019**
Normal Cost	26.42%	24.76%
Amortization of UAAL	(9.80%)	(15.11%)
Budgeted Expenses	0.65%	0.62%
Actuarial Contribution Rate	17.27%	10.27%
Less Estimated Member Contribution Rate	8.00%	8.00%
Employer Actuarial Contribution Rate	9.27%	2.27%
Less Employer Statutory Contribution Rate	22.00%	22.00%
Contribution Shortfall/(Surplus)	(12.73%)	(19.73%)

The contribution surplus in the current valuation is 12.73%, which is a decrease from last year's contribution surplus of 19.73%. The total contribution rate for the System is 30.00% (22.00% for employer and 8.00% for employee), which is above the current normal cost rate of 26.42%. With a contribution rate greater than the normal cost rate and a funded ratio over 100%, the Plan should remain sustainable.

EXPERIENCE: July 1, 2019 to July 1, 2020

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2020. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of the assets. The actuarial process leads to a method of determining the contributions needed by members and employers in the future to balance the System assets and liabilities.

Changes in the System's assets and liabilities impacted the change in the actuarial contribution rates between July 1, 2019 and July 1, 2020. Each component is examined in the following discussion.

ASSETS

As of July 1, 2020, the System had total funds of $351.0 million when measured on a market value basis. This was an increase of $3.4 million from the July 1, 2019 figure of $347.5 million. The market value of assets is not used directly in the calculation of the actuarial contribution rate. An asset valuation method, which smooths the effect of market fluctuations, is used to determine the value of assets used in the valuation, called the "actuarial value of assets." Differences between the actual return on the market value of assets and the assumed return on the actuarial value of assets are phased in over a five-year period. The resulting value must be no less than 80% of the market value and no more than 120% of market value, referred to as "the corridor." See Table 3 for the detailed development of the actuarial value of assets as of July 1, 2020.

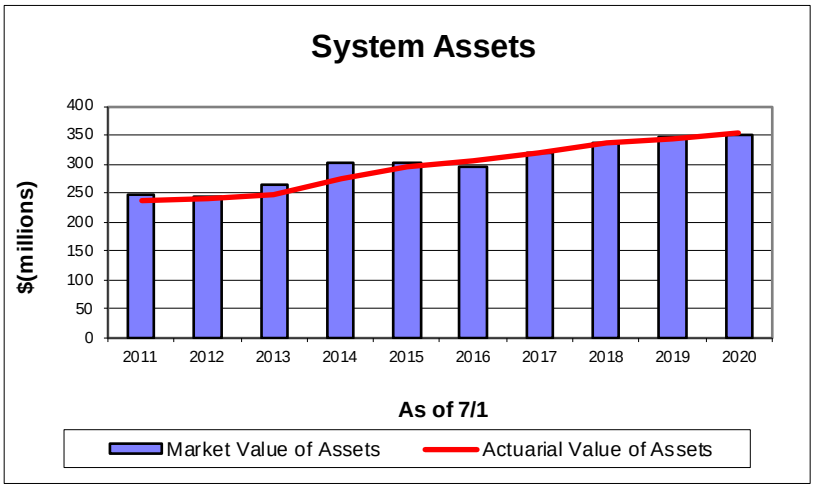
The actuarial value of assets as of July 1, 2020 was $354.5 million. The annualized dollar-weighted rate of return for FY2020, measured on the actuarial value of assets, was approximately 6.3%, which resulted in an actuarial loss of $2.3 million. Measured on the market value of assets, the return on assets as reported by the System was 4.6%.

The components of the change in the market and actuarial value of assets are set forth below:

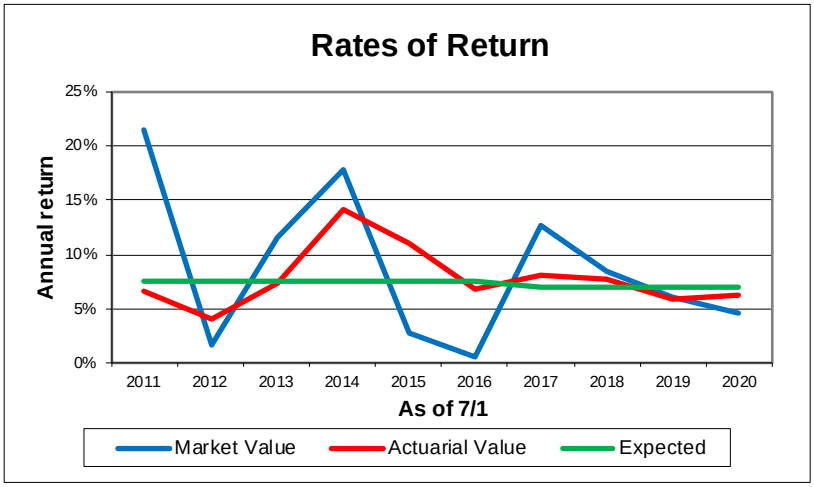
	Market Value $(millions)	Actuarial Value $(millions)
Net Assets, July 1, 2019*	$ 348	$ 345
· Employer and Member Contributions	10	10
· Benefit Payments and Expenses	(23)	(23)
· Investment Income/(Loss)	16	22
Preliminary Value July 1, 2020	$ 351	$ 354
Application of Corridor	N/A	N/A
Final Net Assets, July 1, 2020	$ 351	$ 354
Estimated Rate of Return**	4.6%	6.3%

*The June 30, 2019 market value of assets was revised after the 2019 valuation report was issued.
**Rate of return on market value was reported by the System.

Due to the use of an asset smoothing method, there is about $3.5 million of deferred investment loss that has not yet been recognized. This deferred investment experience will be reflected in the actuarial value of assets over the next few years.



There have been years during the last decade in which the actuarial value of assets has been both higher and lower than the market value, which is what would be expected using an asset smoothing method.



Rates of return on the market value of assets are very volatile. The more stable return on the actuarial value of assets illustrates the advantage of using an asset smoothing method.

SYSTEM LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future normal costs. The difference between this liability and the asset value at the same date is referred to as the unfunded actuarial accrued liability (UAAL). The UAAL will be reduced if the employers' contributions exceed the employers' normal cost for the year, after allowing for interest earned on the previous years' unfunded actuarial accrued liability. Benefit improvements, experience gains/losses, and changes in the actuarial assumptions and methods will also impact the total actuarial accrued liability and the unfunded portion thereof.

As discussed earlier, an experience study was performed in 2020 and, as a result, several changes were recommended to the actuarial assumptions and methods. These changes are first reflected in the July 1, 2020 actuarial valuation. The detailed financial impact of the changes was summarized earlier in this section of the report. The unfunded actuarial liability increased by $11.8 million.

The unfunded actuarial accrued liability as of July 1, 2020 is:

Actuarial Accrued Liability	$333,022,726
Actuarial Value of Assets	354,486,299
Unfunded Actuarial Accrued Liability/(Surplus)	$ (21,463,573)

See Table 5 for the detailed development of the Actuarial Accrued Liability and Table 7 for the calculation of the Unfunded Actuarial Accrued Liability.

Other factors influencing the UAAL from year to year include actual experience versus that expected based on the actuarial assumptions (both asset and liability). The actual experience measured in this valuation is that which occurred during the plan year ended June 30, 2020. There was an experience loss on the actuarial value of assets and an experience gain on liabilities. The net loss resulted in a $1.4 million increase in the UAAL (or reduction in surplus).

Between July 1, 2019 and July 1, 2020, the change in the unfunded actuarial accrued liability for the System was as follows:

	$(millions)
Unfunded Actuarial Accrued Liability, July 1, 2019	($36.6)
· effect of contributions more than actuarial rate	(7.0)
· expected increase due to amortization method	2.9
· investment experience	2.3
· liability experience[1]	(0.9)
· 2020 ad hoc COLA	5.8
· assumption changes	11.8
· other experience	0.2
Unfunded Actuarial Accrued Liability, July 1, 2020	($21.5)

[1] Liability gain is about 0.3% of total expected actuarial accrued liability

The liability gain for the System can be allocated to the actual experience related to each actuarial assumption as follows:

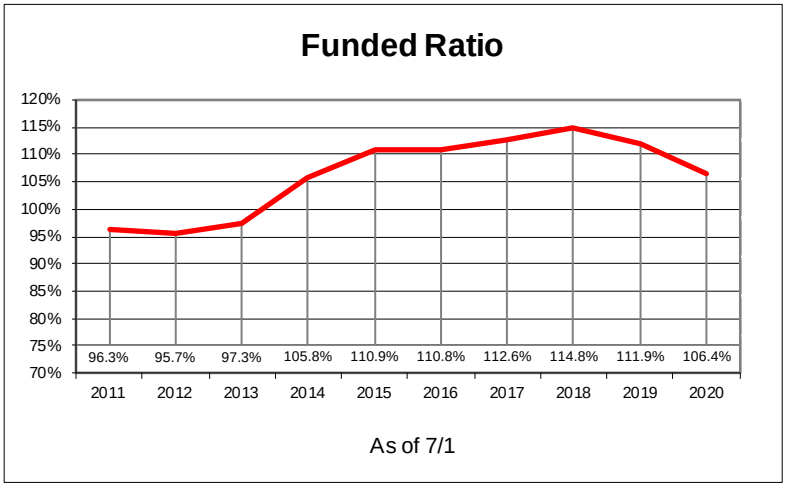
Liability Source	Impact of AAL $(millions)	% of Expected Liability
Salary Increases	($0.45)	(0.1%)
Mortality	(0.08)	(0.0%)
Termination of Employment	0.16	0.1%
Retirements	(0.30)	(0.1%)
Disability	0.00	0.0%
New Entrants and Rehires	0.00	0.0%
Miscellaneous/Data Changes	(0.21)	(0.1%)
Total (Gain)/Loss	($0.88)	(0.3%)

A detailed summary of the change in the UAAL is shown in Table 9.

In the current valuation, the actuarial value of assets exceeds the actuarial liability. This does not mean that all future benefits are paid for; rather, it indicates that the System has accumulated more assets at this point than what is required by the funding method. The ability of the System to remain in this position will depend upon both future experience and contributions received from the plan sponsor.

An evaluation of the unfunded actuarial accrued liability on a pure dollar basis may not provide a complete analysis because only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the unfunded actuarial accrued liability and the progress made in its funding is to track the funded status, which is the ratio of the actuarial value of assets to the actuarial accrued liability. These ratios do not indicate whether or not the plan could settle its liabilities with available assets, nor are they sufficient, on their own, to indicate the future funding needs of the System. The funded status information, on both an actuarial and market value basis, is shown in the following table in $(millions).

	7/1/2015	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
Using Actuarial Value of Assets:						
Funded Ratio	110.9%	110.8%	112.6%	114.8%	111.9%	106.4%
Unfunded Actuarial Accrued Liability (UAAL)	($29)	($30)	($36)	($43)	($37)	($21)
Using Market Value of Assets:						
Funded Ratio	113.1%	106.3%	112.5%	115.3%	112.6%	105.4%
Unfunded Actuarial Accrued Liability (UAAL)	($35)	($17)	($36)	($45)	($39)	($18)



At the beginning of the period shown, the funded ratio was just under 100%. Several factors contributed to the sharp decline in the funded ratio, including changes in the benefit provisions, contributions less than the actuarial rate, changes in actuarial assumptions, demographic experience, and investment experience.

CONTRIBUTION RATES

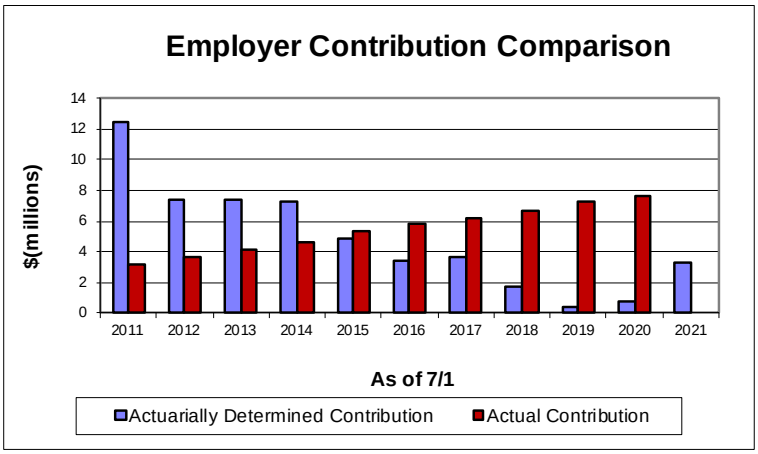
The funding objective of the System is to pay the normal cost rate plus an amount that will pay off the unfunded actuarial accrued liability over a closed 20-year period commencing July 1, 2007.

Under the Entry Age Normal cost method, the actuarial contribution rate consists of:

- A "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date;
- An "unfunded actuarial accrued liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

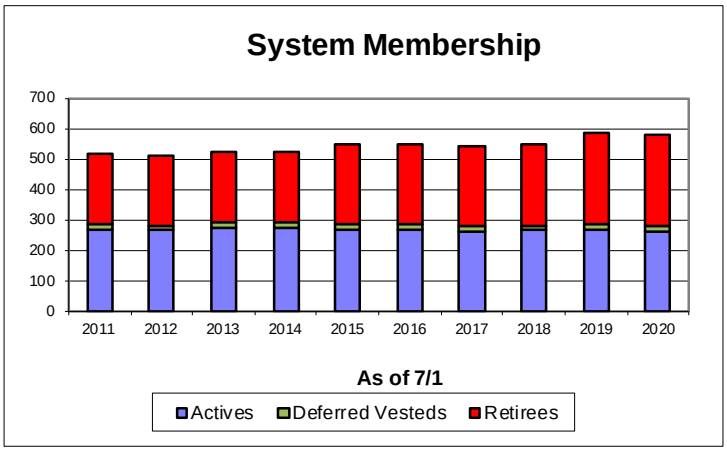
Contributions to the System are made by the members and their employers. Members pay 8.0% of compensation and the employer rate is currently 22.00%. If all assumptions are met in future years, this contribution rate is expected to be adequate to fund the System.

The following graph shows the total actuarially determined employer contribution compared to the amount actually received each year. The funding policy contribution equals the System's normal cost, budgeted expenses, and an amortization of the unfunded actuarial accrued liability over a 20-year closed period beginning July 1, 2007. As of July 1, 2020, seven years remain in the amortization period.

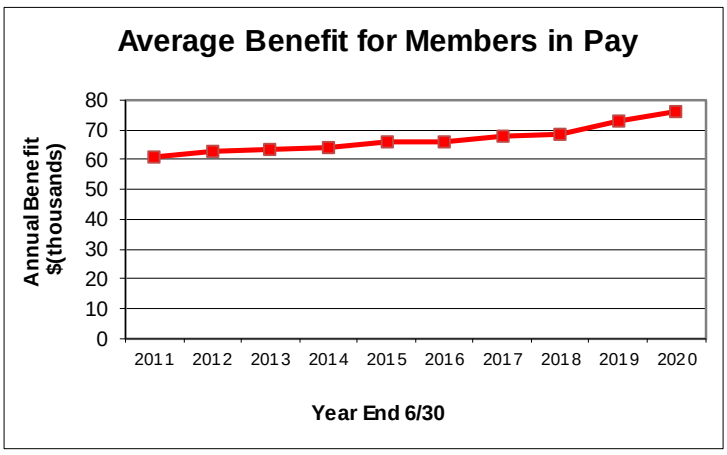


MEMBER INFORMATION

The number of active members decreased from 269 in the 2019 valuation to 263 in the 2020 valuation. Retired member counts and average retirement benefit amounts continue to increase steadily. There were 304 retirees and beneficiaries in the 2020 valuation, with an average benefit of $6,270 per month. This represents a 4.6% increase in the average monthly benefit from the previous year.



The number of active members has been fairly stable over this time period. The number of retirees has increased slightly, which is expected in an ongoing retirement system.



The average benefit for retirees has increased over the past 10 years as members retire with higher salaries and, therefore, higher benefits than those already retired.

COMMENTS

As the graph on page 4 shows, investment experience continues to be extremely volatile which creates significant challenges when funding retirement systems. The rate of return on the market value of assets for FY 2020 was reported by the System as 4.6%, resulting in a net deferred loss.

Due to the asset smoothing method, the rate of return on the actuarial value of assets was 6.3%. Because this return is below the prior valuation assumed rate of return for FY2020 of 7.00%, there was an actuarial loss from asset experience of $2.3 million. There was also an experience gain of $0.9 million on liabilities, largely due to salary increases that were lower than expected based on actuarial assumptions. With an actuarial loss of $1.4 million, the actuarial value of assets exceeds the actuarial accrued liability in the current valuation, and there is a $21.5 million excess of actuarial assets over actuarial liability.

The unfunded actuarial accrued liability is amortized using a payment schedule that is a level percent of payroll. This rate changed this year primarily as a result of the assumption changes and the 2020 *ad hoc* COLA. The combined impact of these factors was an increase of 7.00% in the actuarial contribution rate, resulting in a total actuarial contribution rate of 17.27% in the current valuation. The statutory employer contribution rate is 22.00%, so there is a contribution surplus in this year's valuation of 12.73%. The total contribution rate of 30.00% exceeds the normal cost of the benefits. With a negative unfunded actuarial liability, the scheduled contributions should continue to be adequate provided assumptions are met.

The funded ratio of the System decreased during FY2020, changing from 111.9% to 106.4% when using the actuarial value of assets. This is still considered to be a healthy position.

Also, as noted earlier in the report, should funding of future COLAs and/or stipends be provided by the System, the COLAs and/or stipends should be included in the actuarial valuation.

A typical retirement plan faces many different risks. The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether favorable or unfavorable, creates risk. Actuarial Standard of Practice Number 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions. Risk evaluation is an important part of managing a defined benefit plan. Please see Section 5 of this report for an in-depth discussion of the specific risks facing the Oklahoma Uniform Retirement System for Justices and Judges.

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below.

COMPARISON OF PRINCIPAL VALUATION RESULTS

	7/1/2020 Valuation	7/1/2019 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members	263	269	(2.2)
Retired and Disabled Members and Beneficiaries	304	300	1.3
Inactive Vested Members	15	18	(16.7)
Total members	582	587	(0.9)
Projected Annual Salaries of Active Members	$ 35,377,422	$ 35,112,886	0.8
Annual Retirement Payments for Retired Members and Beneficiaries	$ 22,872,164	$ 21,569,313	6.0
2. ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	$ 333,022,726	$ 308,615,185	7.9
Market Value of Assets	$ 350,962,295	$ 347,536,802	1.0
Actuarial Value of Assets	$ 354,486,299	$ 345,235,761	2.7
Unfunded Actuarial Accrued Liability	$ (21,463,573)	$ (36,620,576)	(41.4)
Funded Ratio	106.4%	111.9%	(4.9)
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost Rate	26.42%	24.76%	
Amortization of Unfunded Actuarial Accrued Liability	(9.80%)	(15.11%)	
Budgeted Expenses	0.65%	0.62%	
Total Actuarial Determined Contribution Rate	17.27%	10.27%	
Less Member Contribution Rate	8.00%	8.00%	
Employer Actuarial Determined Contribution Rate	9.27%	2.27%	
Less Statutory State Employer Contribution Rate	22.00%	22.00%	
Contribution Shortfall/(Surplus)	(12.73%)	(19.73%)	

Uniform Retirement System For Justices & Judges

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, market values of assets provide the basis for measuring investment performance. As of July 1, 2020, the market value of assets for the System was $351.0 million. Table 1 is a comparison, at market values, of System assets as of June 30, 2020 and June 30, 2019 in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2019 to June 30, 2020.

Actuarial Value of Assets

Neither the market value of assets, representing a "cash-out" value of System assets, nor the book value of assets, representing the cost of investments, may be the best measure of the System's ongoing ability to meet its obligations. A technique which dampens swings in the market value while still indirectly recognizing market values is used for determining the actuarial value of assets.

The actuarial value of assets is based on a five-year moving average of expected and actual market values determined as follows:

- at the beginning of each fiscal year, a preliminary expected actuarial asset value is calculated as the sum of the previous year's actuarial value increased with a year's interest at the System's valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the previous fiscal year;
- the expected actuarial asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous fiscal year;
- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous fiscal year;
- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous fiscal years, but in no case more than 120% of the market value or less than 80% of the market value.

Table 3 shows the development of the actuarial value of assets as of the valuation date.

Uniform Retirement System For Justices & Judges

Table 1

Analysis of Net Assets at Market Value

	June 30, 2020		June 30, 2019	
	Amount $(millions)	% of Total	Amount $(millions)	% of Total
Cash & Equivalents	$ 9.8	2.7%	$ 4.3	1.2%
Short-term Investments	0.1	0.0%	0.6	0.2%
Government Obligations	76.3	21.3%	74.1	21.2%
Corporate Bonds	38.7	10.8%	32.1	9.2%
Domestic Equity	141.7	39.6%	142.8	40.8%
International Equity	91.5	25.6%	95.9	27.4%
Subtotal	$ 358.1	100.0%	$ 349.8	100.0%
Net Receivables/(Payables)	(7.1)		(2.3)	
Net Assets	$ 351.0		$ 347.5	

Uniform Retirement System For Justices & Judges

Table 2

Statement of Changes in Net Assets

	Fiscal Year Ended June 30, 2020	Fiscal Year Ended June 30, 2019
1. Market Value of Net Assets at Beginning of Year*	$ 347,523,496	$ 338,035,386
2. Contributions		
a. Members	$ 2,765,684	$ 2,666,542
b. Participating court employers	7,587,290	7,333,003
c. Total contributions (2a) + (2b)	$ 10,352,974	$ 9,999,545
3. Net Investment Income		
a. Net appreciation (depreciation) in fair value of investments	$ 12,974,211	$ 17,450,457
b. Interest	2,818,128	2,964,702
c. Securities lending activities	44,028	25,397
d. Total investment income/(loss) (3a) + (3b) + (3c)	$ 15,836,367	$ 20,440,556
e. Investment expenses	(155,826)	(122,123)
f. Net investment income/(loss) (3d) + (3e)	$ 15,680,541	$ 20,318,433
g. Total additions/(subtractions) (2c) + (3f)	$ 26,033,515	$ 30,317,978
4. Deductions		
a. Retirement, death, and survivor benefits	$ 22,233,707	$ 20,580,861
b. Refunds and withdrawals	184,977	65,548
c. Administrative expenses	176,032	170,153
d. Total deductions (4a) + (4b) + (4c)	$ 22,594,716	$ 20,816,562
5. Net Change in Assets (3g) - (4d)	$ 3,438,799	$ 9,501,416
6. Market Value of Net Assets at End of Year (1) + (5)	$ 350,962,295	$ 347,536,802

*The June 30, 2019 market value of assets was revised after the 2019 valuation report was issued.

Uniform Retirement System For Justices & Judges

Table 3

Determination of Actuarial Value of Assets

1. Market Value as of June 30, 2019*	$	347,536,802
2. Contributions		
a. Member	$	2,765,684
b. Employer		7,587,290
c. Total (a) + (b)	$	10,352,974
3. Decreases During Year		
a. Benefit payments	$	(22,233,707)
b. Refunds and withdrawals		(184,977)
c. Administrative expenses		(176,032)
d. Total (a) + (b) + (c)	$	(22,594,716)
4. Expected Return on Assets at 7.00%	$	23,906,362
5. Expected Market Value as of June 30, 2020 (1) + (2c) + (3d) + (4)	$	359,201,422
6. Actual Market Value as of June 30, 2020	$	350,962,295
7. Year End 2020 Asset Gain/(Loss) (6) - (5)	$	(8,239,127)

Schedule of Asset Gains/(Losses)

Year End	Original Amount	Recognized in Prior Years	Recognized in This Year	Recognized in Future Years
2016	$ (20,823,829)	$ (16,659,064)	$ (4,164,765)	$ 0
2017	15,676,735	9,406,041	3,135,347	3,135,347
2018	4,287,656	1,715,062	857,531	1,715,063
2019	(2,971,852)	(594,370)	(594,370)	(1,783,112)
2020	(8,239,127)	0	(1,647,825)	(6,591,302)
Total	$ (12,070,417)	$ (6,132,331)	$ (2,414,082)	$ (3,524,004)

8. Asset Gain/(Loss) to be Recognized in the Future	$	(3,524,004)
9. Initial Actuarial Value as of June 30, 2020 (6) - (8)	$	354,486,299
10. Constraining Values:		
a. 80% of market value (6) x 0.8	$	280,769,836
b. 120% of market value (6) x 1.2	$	421,154,754
11. Actuarial Value as of June 30, 2020 (9), but not less than (10a), nor greater than (10b)	$	354,486,299

*The June 30, 2019 market value of assets was revised after the 2019 valuation report was issued.

Uniform Retirement System For Justices & Judges

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the System as of the valuation date, July 1, 2020. In this section, the discussion will focus on the commitments of the System, which are referred to as its liabilities.

Table 4 contains the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries.

The liabilities summarized in Table 4 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits expected to be earned. For all members, active and retired, the value includes benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of the surviving beneficiaries.

The actuarial assumptions used to determine liabilities are based on the results of an experience study covering the three-year period ended June 30, 2019. This set of assumptions is shown in Appendix B. The liabilities reflect the benefit structure in place as of July 1, 2020.

Actuarial Liabilities

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to "break down" the present value of future benefits into two components:

(1) that which is attributable to the past; and
(2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability." The portion allocated to the future is known as the "present value of future normal costs," with the specific piece of it allocated to the current year being called the "normal cost." Table 5 contains the calculation of actuarial liabilities for all groups.

In valuations prior to July 1, 2011, the System used an assumption of a 2% annual COLA each year in developing liabilities and contribution rates. The System did not have an automatic COLA provision, but ad hoc COLAs had historically been granted by the Legislature. The 2011 Oklahoma Legislature passed House Bill 2132 which removed COLAs from the definition of "non-fiscal retirement bills" in the Oklahoma Pension Legislation Actuarial Analysis Act (OPLAAA). The impact of this change was to make any COLA bill subject to all of the requirements of OPLAAA, including the requirement that such bills provide adequate funding to pay the cost. As a result, beginning with the July 1, 2011 actuarial valuation, the liabilities of the System have been calculated without a COLA assumption. Also, as noted earlier in the report, should funding of future COLAs and/or stipends be provided by the System, the COLAs and/or stipends should be included in the actuarial valuation.

Uniform Retirement System For Justices & Judges

Table 4

Present Value of Future Benefits
As of July 1, 2020

		Total
1. Active Employees		
a. Retirement Benefit	$	162,905,995
b. Withdrawal Benefit		9,130,421
c. Pre-Retirement Death Benefit		2,433,990
d. Return of Member Contributions		650,642
e. Supplemental Medical Benefit		1,700,315
f. Subtotal	$	176,821,363
2. Inactive Nonvested Members	$	258,130
3. Inactive Vested Members	$	5,840,016
4. Disabled Members	$	1,185,284
5. Retirees	$	196,846,943
6. Beneficiaries	$	19,774,960
7. Supplemental Medical Benefit for Retirees and Inactive Vested Members	$	1,844,246
8. Total PVFB	$	402,570,942

Uniform Retirement System For Justices & Judges

Table 5

Actuarial Accrued Liability
As of July 1, 2020

		Total
1. Present Value of Future Benefits for Active Members		
a. Retirement Benefit	$	162,905,995
b. Withdrawal Benefit		9,130,421
c. Pre-Retirement Death Benefit		2,433,990
d. Return of Member Contributions		650,642
e. Supplemental Medical Benefit		1,700,315
f. Subtotal	$	176,821,363
2. Present Value of Future Normal Costs for Active Members		
a. Retirement Benefit	$	60,082,598
b. Withdrawal Benefit		6,774,456
c. Pre-Retirement Death Benefit		1,095,058
d. Return of Member Contributions		922,063
e. Supplemental Medical Benefit		674,041
f. Subtotal	$	69,548,216
3. Present Value of Future Benefits for Inactive Members		225,749,579
4. Total Actuarial Accrued Liability (1f) - (2f) + (3)	$	333,022,726

Uniform Retirement System For Justices & Judges

In the previous two sections, attention has been focused on the assets and the liabilities (present value of future benefits) of the System. A comparison of Tables 3 and 4 indicates that there is a shortfall in current actuarial assets needed to meet the present value of all future benefits for current members and beneficiaries.

In an active system, there will always be a difference between the assets and the present value of all future benefits. An actuarial valuation determines a schedule of future contributions that will provide for this funding in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost; and (2) the payment on the unfunded actuarial accrued liability.

The term "fully funded" is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded and/or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated under the actuarial assumptions. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists.

Description of Rate Components

The actuarial cost method used by the System is the traditional Entry Age Normal (EAN) cost method as a level percent of pay. Under the EAN cost method, the actuarial present value of each member's projected benefit is allocated on a level basis over the member's compensation between the entry age of the member and the assumed exit age. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses.

Effective with the July 1, 2008 valuation, the UAAL is amortized as a level percent of payroll over a closed 20-year period commencing July 1, 2007. For July 1, 1998 and prior years, the unfunded actuarial accrued liability was amortized over 25 years from July 1, 1987. For the July 1, 1999 valuation, the amortization period was changed to 40 years from July 1, 1987. Given a stable active workforce, the level percent of payroll amortization method is expected to produce a payment stream that is constant as a percent of covered payroll.

Contribution Rate Summary

The normal cost rate is developed in Table 6. Table 7 illustrates the development of the contribution rate for amortization of the unfunded actuarial accrued liability. Table 8 explains the development of the total actuarial contribution rate.

Uniform Retirement System For Justices & Judges

Table 6

Normal Cost Contribution Rates
As a Percentage of Salary

		Total	% of Pay
1. Normal Cost			
a. Retirement Benefit	$	8,235,240	23.28%
b. Withdrawal Benefit		726,762	2.05%
c. Pre-Retirement Death Benefit		144,060	0.41%
d. Return of Member Contributions		134,586	0.38%
e. Supplemental Medical Benefit		107,213	0.30%
f. Total	$	9,347,861	26.42%
2. Estimated Payroll for the Year	$	35,377,422	
3. Normal Cost Rate (1f)/(2)		26.42%	

Uniform Retirement System For Justices & Judges

Table 7

Unfunded Actuarial Accrued Liability Contribution Rate

1. Actuarial Present Value of Future Benefits	$	402,570,942
2. Actuarial Present Value of Future Normal Costs		69,548,216
3. Actuarial Accrued Liability (1) - (2)	$	333,022,726
4. Actuarial Value of Assets		354,486,299
5. Unfunded Actuarial Accrued Liability (UAAL) (3) - (4)	$	(21,463,573)
6. Amortization of UAAL over 20 years from July 1, 2007 (assumed mid-year) *	$	(3,465,960)
7. Total Estimated Payroll for Year Ending June 30, 2021	$	35,377,422
8. Amortization as a Percent of Payroll		(9.80%)

*The UAAL is amortized as a level percent of payroll, assuming payroll increases 3.25% per year.

Uniform Retirement System For Justices & Judges

Table 8

Actuarial Contribution Rate

	July 1, 2020	July 1, 2019
1. Total Normal Cost Rate	26.42%	24.76%
2. Amortization of UAAL[1]	(9.80%)	(15.11%)
3. Budgeted Expenses[2]	0.65%	0.62%
4. Total Actuarial Contribution Rate (1) + (2) + (3)	17.27%	10.27%
5. Member Contribution Rate	8.00%	8.00%
6. Employer Actuarial Contribution Rate (4) - (5)	9.27%	2.27%

[1] Amortization of UAAL is a level percent of payroll.

[2] Provided by the System.

Uniform Retirement System For Justices & Judges

Table 9

Calculation of Actuarial Gain/(Loss)

1. Expected Actuarial Accrued Liability		
a. Actuarial accrued liability at July 1, 2019	$	308,615,185
b. Normal cost at July 1, 2019		8,692,922
c. Benefit payments for fiscal year ending June 30, 2020		(22,418,684)
d. Interest on (a), (b), and (c)		21,440,184
e. 2020 ad hoc COLA		5,785,872
f. Assumption changes		11,783,919
g. Expected actuarial accrued liability as of July 1, 2020	$	333,899,398
2. Actuarial Accrued Liability at July 1, 2020	$	333,022,726
3. Actuarial Accrued Liability Gain/(Loss) (1g) - (2)	$	876,672
4. Expected Actuarial Value of Assets		
a. Actuarial value of assets at July 1, 2019	$	345,235,761
b. Contributions for fiscal year ending June 30, 2020		10,352,974
c. Benefit payments and administrative expenses for fiscal year ending June 30, 2020		(22,594,716)
d. Interest on (a), (b), and (c)		23,745,289
e. Expected actuarial value of assets as of July 1, 2020 (a) + (b) + (c) + (d)	$	356,739,308
5. Actuarial Value of Assets at July 1, 2020	$	354,486,299
6. Actuarial Value of Assets Gain/(Loss) (5) - (4e)	$	(2,253,009)
7. Net Actuarial Gain/(Loss) (3) + (6)	$	(1,376,337)

Uniform Retirement System For Justices & Judges

Table 10

Summary of Contribution Requirements

	Actuarial Valuation as of July 1, 2020	Actuarial Valuation as of July 1, 2019	Percent Change
1. Expected Annual Payroll	$ 35,377,422	$ 35,112,886	0.8%
2. Total Normal Cost	$ 9,347,861	$ 8,692,922	7.5%
3. Unfunded Actuarial Accrued Liability	$ (21,463,573)	$ (36,620,576)	(41.4%)
4. Amortization of Unfunded Actuarial Accrued Liability over 20 Years from July 1, 2007*	$ (3,465,960)	$ (5,304,188)	(34.7%)
5. Budgeted Expenses (Provided by the System)	$ 230,272	$ 216,948	6.1%
6. Total Required Contribution (2) + (4) + (5)	$ 6,112,173	$ 3,605,682	69.5%
7. Estimated Member Contributions	$ 2,830,194	$ 2,809,031	0.8%
8. Required Employer Contribution (6) - (7)	$ 3,281,979	$ 796,651	312.0%
9. Previous Year's Actual Contribution			
a. Member	$ 2,765,684	$ 2,666,542	3.7%
b. Employer	7,587,290	7,333,003	3.5%
c. Total	$ 10,352,974	$ 9,999,545	3.5%

*Amortization of UAAL is a level percent of payroll.

Uniform Retirement System For Justices & Judges

Actuarial Standards of Practice are issued by the Actuarial Standards Board and are binding on credentialed actuaries practicing in the United States. These standards generally identify what the actuary should consider, document and disclose when performing an actuarial assignment. In September 2017, Actuarial Standard of Practice Number 51, *Assessment and Disclosure of Risk in Measuring Pension Obligations*, (ASOP 51) was issued as final with application to measurement dates on or after November 1, 2018. This ASOP, which applies to funding valuations, actuarial projections, and actuarial cost studies of proposed plan changes, was first applicable for the July 1, 2019 actuarial valuation for the Oklahoma Uniform Retirement System for Justices and Judges.

A typical retirement plan faces many different risks, but the greatest risk is the inability to make benefit payments when due. If plan assets are depleted, benefits may not be paid which could create legal risk or the plan could become "pay as you go". The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world, risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether favorable or unfavorable, creates risk. ASOP 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions.

The various risk factors for a given plan can have a significant impact – positive or negative – on the actuarial projection of liability and contribution rates.

There are a number of risks inherent in the funding of a defined benefit plan. These include:

- economic risks, such as investment return and price inflation;
- demographic risks such as mortality, payroll growth, aging population including the impact of baby boomers, and retirement ages;
- contribution risk, i.e., the potential for contribution rates to be too high for the plan sponsor/employer to pay; and
- external risks such as the regulatory and political environment.

There is a direct correlation between healthy, well-funded retirement plans and consistent contributions equal to the full actuarial contribution rate each year. The sources of funding for URSJJ do not guarantee that the full contributions will be made, but because the System is currently well-funded, the amounts are currently sufficient. There is a risk if the funded status declines significantly that the contribution structure would not be able to return the System to being well-funded.

The other significant risk factor for URSJJ is investment return because of the volatility of returns and the size of plan assets compared to payroll (see Table 11). A perusal of historical returns over 10-20 years reveals that the actual return each year is rarely close to the average return for the same period. This is to be expected, given the underlying capital market assumptions and the System's asset allocation.

A key demographic risk for all retirement systems, including URSJJ, is improvements in mortality (longevity) greater than anticipated. While the actuarial assumptions anticipate some improvements in mortality experience over time and these assumptions are refined every experience study, the risk arises because there is a possibility of some sudden shift, perhaps from a significant medical breakthrough that

could quickly increase liabilities. Likewise, there is some possibility of a significant public health crisis that could result in a significant number of additional deaths in a short time period, which would also be significant, although more easily absorbed. While either of these events could happen, they are not frequent events and are generally modest in their impact, and thus represent much less risk than the volatility associated with investment returns. We note that as we prepare this report, the world is in the midst of a pandemic. At this time, it is not clear what, if any, impact this will have on the URSJJ plan. However, these events do point out the wisdom of considering what risks a plan may face.

The following exhibits summarize some historical information that helps indicate how certain key risk metrics have changed over time. Many are due to the maturing of the retirement system.

Uniform Retirement System For Justices & Judges

Table 11

Historical Asset Volatility Ratios

As a retirement system matures, the size of the market value of assets increases relative to the covered payroll of active members, on which the System is funded. The size of the plan assets relative to covered payroll, sometimes referred to as the asset volatility ratio, is an important indicator of the contribution risk for the System. The higher this ratio, the more sensitive a plan's contribution rate is to investment return volatility. In other words, it will be harder to recover from investment losses with increased contributions.

Actuarial Valuation Date	Market Value of Assets	Estimated Plan Year Payroll	Asset Volatility Ratio	Increase in ACR with a Return 10% Lower than Assumed*
7/1/2005	$205,705,354	$24,814,338	8.29	13.39%
7/1/2006	213,717,521	27,488,381	7.77	12.55%
7/1/2007	240,250,642	32,191,938	7.46	12.05%
7/1/2008	225,924,669	32,389,296	6.98	11.27%
7/1/2009	184,646,816	33,579,668	5.50	8.88%
7/1/2010	211,180,555	35,023,262	6.03	9.74%
7/1/2011	248,189,010	34,700,819	7.15	11.55%
7/1/2012	243,819,421	33,336,632	7.31	11.80%
7/1/2013	263,230,961	34,325,368	7.67	12.39%
7/1/2014	301,469,209	34,281,695	8.79	14.19%
7/1/2015	301,296,105	34,537,376	8.72	14.08%
7/1/2016	293,726,797	34,810,851	8.44	13.63%
7/1/2017	321,153,877	33,359,101	9.63	15.55%
7/1/2018	338,035,386	33,838,528	9.99	16.13%
7/1/2019	347,536,802	35,112,886	9.90	15.99%
7/1/2020	350,962,295	35,377,422	9.92	16.02%

Note: Results prior to 7/1/2010 were provided by the prior actuary.

*The impact of asset smoothing is not reflected in the impact on the Actuarial Contribution Rate (ACR). Current year assumptions are used for all years shown.

The assets at June 30, 2020 are 992% of payroll, so underperforming the investment return assumption by 1.00% (i.e., earn 5.50% for one year) is equivalent to 9.92% of payroll. While the actual impact in the first year is mitigated by the asset smoothing method and amortization of the UAAL, this illustrates the risk associated with volatile investment returns.

Uniform Retirement System For Justices & Judges

Table 12

Historical Cash Flows

Plans with negative cash flows will experience increased sensitivity to investment return volatility. Cash flows, for this purpose, are measured as contributions less benefit payments. Note that negative cash flows are expected in mature retirement systems. If the System has negative cash flows and then experiences returns below the assumed rate, there are fewer assets to be reinvested to earn the higher returns that typically follow. While any negative cash flow will produce such a result, it is typically a negative cash flow of more than 5% of MVA that may cause significant concerns. URSJJ has had negative cash flows of around 3% in recent years, so there is no concern for the foreseeable future.

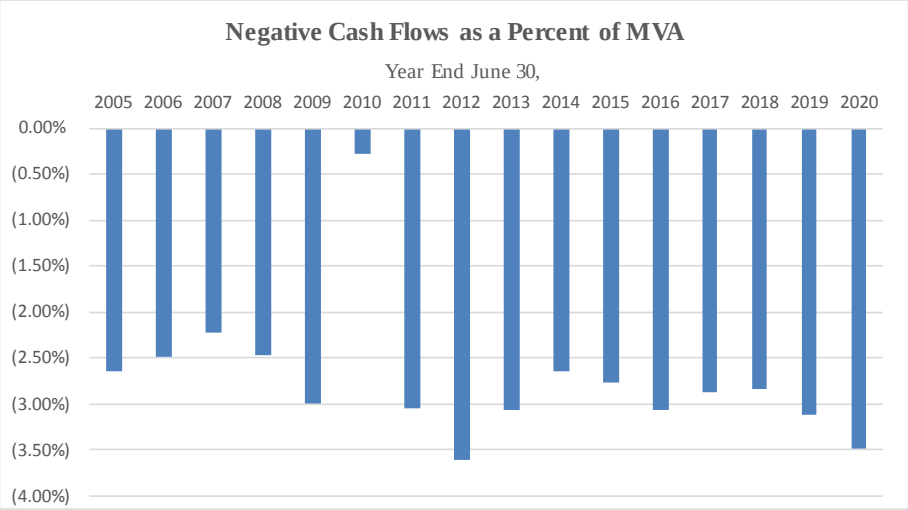
Year End	Market Value of Assets (MVA)	Contributions	Benefit Payments and Expenses	Net Cash Flow	Net Cash Flow as a Percent of MVA
6/30/2005	$205,705,354	$2,192,015	$7,645,350	($5,453,335)	(2.65%)
6/30/2006	213,717,521	2,849,799	8,163,122	(5,313,323)	(2.49%)
6/30/2007	240,250,642	3,823,061	9,171,115	(5,348,054)	(2.23%)
6/30/2008	225,924,669	4,175,154	9,765,263	(5,590,109)	(2.47%)
6/30/2009	184,646,816	5,018,538	10,556,703	(5,538,165)	(3.00%)
6/30/2010	211,180,555	11,303,573	11,886,316	(582,743)	(0.28%)
6/30/2011	248,189,010	5,861,185	13,408,765	(7,547,580)	(3.04%)
6/30/2012	243,819,421	6,182,024	14,963,571	(8,781,547)	(3.60%)
6/30/2013	263,230,961	6,672,884	14,759,715	(8,086,831)	(3.07%)
6/30/2014	301,469,209	7,154,697	15,128,581	(7,973,884)	(2.65%)
6/30/2015	301,296,105	8,001,418	16,347,943	(8,346,525)	(2.77%)
6/30/2016	293,726,797	8,497,885	17,508,772	(9,010,887)	(3.07%)
6/30/2017	321,153,877	8,854,513	18,071,105	(9,216,592)	(2.87%)
6/30/2018	338,035,386	9,292,559	18,850,604	(9,558,045)	(2.83%)
6/30/2019	347,536,802	9,999,545	20,816,562	(10,817,017)	(3.11%)
6/30/2020	350,962,295	10,352,974	22,594,716	(12,241,742)	(3.49%)

Note: Results prior to 6/30/2010 were provided by the prior actuary.

Uniform Retirement System For Justices & Judges

Table 12 (continued)

Historical Cash Flows



Uniform Retirement System For Justices & Judges

Table 13

Liability Maturity Measurement

Most public sector retirement systems have been in operation for many years. As a result, they have aging plan populations, and in some cases declining active populations, resulting in an increasing ratio of retirees to active members and a growing percentage of retiree liability. The retirement of the remaining baby boomers over the next decade is expected to further exacerbate the aging of the retirement system population. With more of the total liability residing with retirees, investment volatility has a greater impact on the funding of the system since it is more difficult to restore the system financially after losses occur when there is comparatively less payroll over which to spread costs.

Projections provide the most effective way of analyzing the impact of these changes on future funding measures, but studying several key metrics from the valuation can also provide some valuable insight.

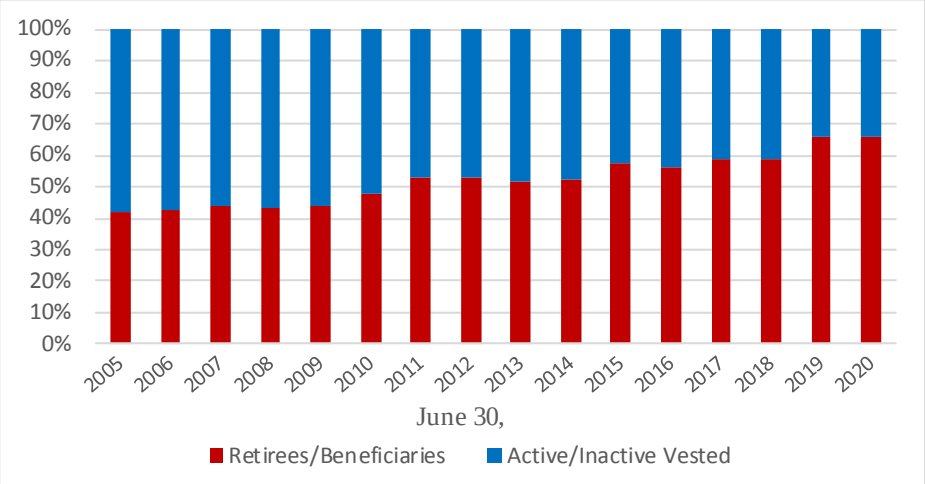
Year End	Retiree Liability (a)	Total Actuarial Accrued Liability (b)	Retiree Percentage (a / b)	Covered Payroll (c)	Ratio (b / c)
6/30/2005	$79,236,433	$187,556,845	42.2%	$24,814,338	7.56
6/30/2006	86,932,392	205,305,048	42.3%	27,488,381	7.47
6/30/2007	100,313,982	227,062,193	44.2%	32,191,938	7.05
6/30/2008	105,217,189	244,062,321	43.1%	32,389,296	7.54
6/30/2009	114,507,978	261,396,022	43.8%	33,579,668	7.78
6/30/2010	134,247,547	282,765,405	47.5%	35,023,262	8.07
6/30/2011	130,210,109	246,792,232	52.8%	34,700,819	7.11
6/30/2012	132,480,906	249,378,900	53.1%	33,336,632	7.48
6/30/2013	130,828,766	254,408,963	51.4%	34,325,368	7.41
6/30/2014	135,145,234	258,787,677	52.2%	34,281,695	7.55
6/30/2015	153,575,973	266,400,026	57.6%	34,537,376	7.71
6/30/2016	154,553,759	276,433,541	55.9%	34,810,851	7.94
6/30/2017	168,017,723	285,536,906	58.8%	33,359,101	8.56
6/30/2018	172,994,980	293,103,489	59.0%	33,838,528	8.66
6/30/2019	202,471,697	308,615,185	65.6%	35,112,886	8.79
6/30/2020	219,651,433	333,022,726	66.0%	35,377,422	9.41

Note: Results prior to 6/30/2010 were provided by the prior actuary.

Uniform Retirement System For Justices & Judges

Table 13 (continued)

Liability Maturity Measurement



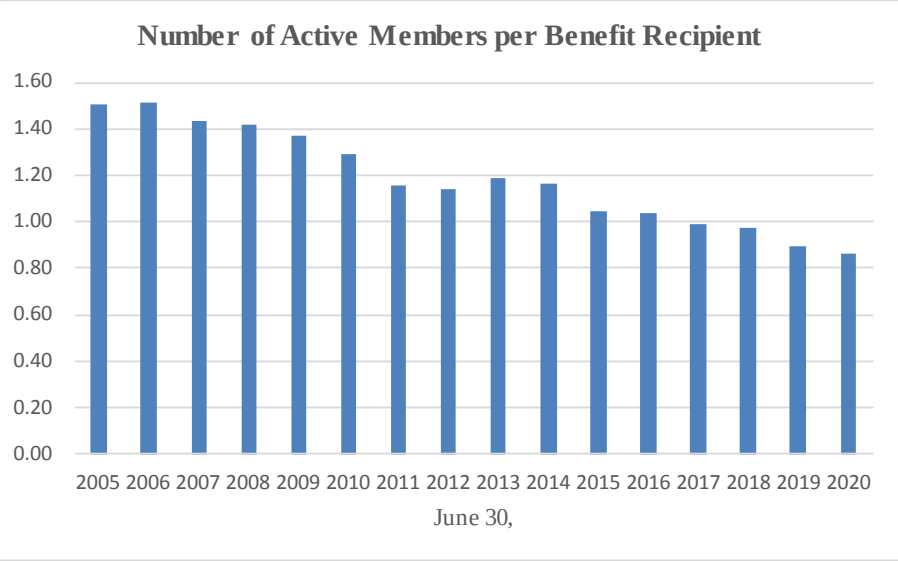
Uniform Retirement System For Justices & Judges

Table 14

Historical Member Statistics

Valuation Date	Active Members				Retired Members			
		Projected	Average Salary			Active/	Average Benefits	
June 30,	Number	Payroll	$	% Incr.	Number	Retired	$	% Incr.
2005	263	$24,814,338	$94,351		175	1.50	$43,703	
2006	272	27,488,381	101,060	7.11%	180	1.51	46,473	6.34%
2007	278	32,191,938	115,798	14.58%	194	1.43	48,510	4.38%
2008	277	32,389,296	116,929	0.98%	195	1.42	50,975	5.08%
2009	274	33,579,668	122,554	4.81%	200	1.37	52,727	3.44%
2010	271	35,023,262	129,237	5.45%	210	1.29	56,200	6.59%
2011	271	34,700,819	128,047	(0.92%)	235	1.15	60,187	7.09%
2012	266	33,336,632	125,326	(2.13%)	233	1.14	62,260	3.44%
2013	273	34,325,368	125,734	0.33%	230	1.19	62,480	0.35%
2014	274	34,281,695	125,116	(0.49%)	235	1.17	63,242	1.22%
2015	271	34,537,376	127,444	1.86%	260	1.04	65,226	3.14%
2016	269	34,810,851	129,408	1.54%	260	1.03	65,216	(0.02%)
2017	262	33,359,101	127,325	(1.61%)	265	0.99	67,340	3.26%
2018	265	33,838,528	127,693	0.29%	272	0.97	68,140	1.19%
2019	269	35,112,886	130,531	2.22%	300	0.90	71,898	5.52%
2020	263	35,377,422	134,515	3.05%	304	0.87	75,237	4.64%

Note: Results prior to 6/30/2010 were provided by prior actuary.



Uniform Retirement System For Justices & Judges

Table 15

Comparison of Valuation Results under Alternate Investment Return Assumptions

Investment Return Assumption	5.50%	6.00%	6.50%	7.00%	7.50%
Contributions					
Normal Cost Rate	31.56%	28.86%	26.42%	24.22%	22.23%
Amortization of UAAL	4.13%	(2.97%)	(9.80%)	(16.36%)	(22.70%)
Budgeted Expenses	0.65%	0.65%	0.65%	0.65%	0.65%
Total Actuarial Determined Contribution	36.34%	26.54%	17.27%	8.51%	0.18%
Member Contribution Rate	(8.00%)	(8.00%)	(8.00%)	(8.00%)	(8.00%)
Statutory State Contribution Rate	(22.00%)	(22.00%)	(22.00%)	(22.00%)	(22.00%)
Contribution Shortfall/(Surplus)	6.34%	(3.46%)	(12.73%)	(21.49%)	(29.82%)
Actuarial Value of Assets ($ in thousands)	$354,486	$354,486	$354,486	$354,486	$354,486
Actuarial Accrued Liability	$363,825	$347,867	$333,023	$319,196	$306,299
Funded Ratio	97.4%	101.9%	106.4%	111.1%	115.7%

Note: All other assumptions are unchanged for purposes of this sensitivity analysis.

Uniform Retirement System For Justices & Judges

In this section, we provide exhibits showing the funding history, the expected benefit payments, and the present value of accumulated benefits.

Uniform Retirement System For Justices & Judges

Table 16

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll ((b) - (a))/(c)
7/1/2011	$ 237,626,663	$ 246,792,232	$ 9,165,569	96.3%	$ 34,700,819	26.4%
7/1/2012	238,553,638	249,378,900	10,825,262	95.7%	33,336,632	32.5%
7/1/2013	247,531,035	254,408,963	6,877,928	97.3%	34,325,368	20.0%
7/1/2014	274,070,696	258,787,677	(15,283,019)	105.9%	34,281,695	(44.6%)
7/1/2015	295,355,061	266,400,026	(28,955,035)	110.9%	34,537,376	(83.8%)
7/1/2016	306,256,213	276,433,541	(29,822,672)	110.8%	34,810,851	(85.7%)
7/1/2017	321,405,873	285,536,906	(35,868,967)	112.6%	33,359,101	(107.5%)
7/1/2018	336,354,636	293,103,489	(43,251,147)	114.8%	33,838,528	(127.8%)
7/1/2019	345,235,761	308,615,185	(36,620,576)	111.9%	35,112,886	(104.3%)
7/1/2020	354,486,299	333,022,726	(21,463,573)	106.4%	35,377,422	(60.7%)

Uniform Retirement System For Justices & Judges

Table 17

Projected Benefit Payments

The table below shows estimated benefits expected to be paid over the next ten years, based on the assumptions used in this valuation. The "Actives" column shows benefits expected to be paid to members currently active on July 1, 2020. The "Retirees" column shows benefits as of July 1, 2020 expected to be paid to all members receiving benefit payments or to members who have terminated employment and are entitled to a deferred vested benefit.

Retirement, Survivor and Withdrawal Benefits

Year Ending June 30	Actives	Retirees	Total
2021	$ 1,429,000	$ 22,685,000	$ 24,114,000
2022	2,782,000	22,264,000	25,046,000
2023	3,948,000	21,868,000	25,816,000
2024	5,000,000	21,411,000	26,411,000
2025	6,068,000	20,873,000	26,941,000
2026	7,331,000	20,317,000	27,648,000
2027	8,587,000	19,768,000	28,355,000
2028	9,743,000	19,176,000	28,919,000
2029	10,862,000	18,535,000	29,397,000
2030	11,928,000	17,825,000	29,753,000

Supplemental Medical Premium Benefits

Year Ending June 30	Actives	Retirees	Total
2021	$ 15,000	$ 202,000	$ 217,000
2022	32,000	197,000	229,000
2023	48,000	193,000	241,000
2024	62,000	187,000	249,000
2025	75,000	181,000	256,000
2026	90,000	174,000	264,000
2027	104,000	167,000	271,000
2028	118,000	160,000	278,000
2029	129,000	153,000	282,000
2030	140,000	144,000	284,000

Uniform Retirement System of Justices & Judges

Following is a summary of the major System provisions used to determine the System's financial position as of July 1, 2020.

Effective date and authority

The System became effective January 13, 1969.

The System is provided for under Sections 1101-1111 of Title 20 of the Oklahoma Statutes.

Administration

The State Judicial Retirement Fund is administered by the Board of Trustees of the Oklahoma Public Employees Retirement System. The Board acts as the fiduciary for investment and administration of the System.

Employees included

All Justices and Judges of the Supreme Court, Court of Criminal Appeals, Workers Compensation Court, Court of Appeals or District Court who serve in the State of Oklahoma participate in the Uniform Retirement System for Justices and Judges.

Member contributions

Before September 1, 2005, basic member contributions equal 5% of salary, while married members could have elected an 8% contribution rate in order to provide survivor coverage. After September 1, 2005, the member contribution rate for all members is 8% of salary.

Employer contributions

Before July 1, 1997, the fund received an amount equal to 10% of the Court Fund receipts. After July 1, 1997, employer contributions were based on members' salaries and a yearly schedule and, effective January 1, 2001, were changed to 2.0% of the member's salary. Effective for the fiscal years ending June 30, 2006, employer contributions increased to 3.0% of the member's salary and will increase annually up to 22.0% for fiscal years ending June 30, 2019, and thereafter.

Service considered

Any Justice or Judge who becomes a member of the System when first eligible will receive credit for all years of service with the Supreme Court, Court of Criminal Appeals, Workers' Compensation Court, Court of Appeals, or a District Court of the State of Oklahoma.

Uniform Retirement System of Justices & Judges

Compensation considered	Salary received by the Justice or Judge while serving in the referenced courts.
Final average salary	The average monthly salary received during the thirty-six (36) highest months of active service as a Justice or Judge.
Eligibility for benefits	A Justice or Judge must complete eight (8) years of service to be eligible for any benefit from the System. A member who leaves the System, for any reason, prior to the completion of eight (8) years of service is entitled only to a return of his/her accumulated contributions without interest.
Normal retirement date	A member who completes eight (8) years of service and attains age sixty-five (65), or completes ten (10) years of service and attains age sixty (60), or completes eight (8) years of service and whose sum of years of service and age equals or exceeds eighty (80), may begin receiving retirement benefits at his/her request. For Justices or Judges taking office after January 1, 2012, retirement age is sixty-seven (67) with eight (8) years of service or age sixty-two (62) with ten (10) years of service.
Normal retirement benefit	The benefit, payable monthly for the life of the member, is equal to 4% of average monthly salary multiplied by the number of years in service. In no event, however, will the benefit exceed 100% of final average salary.
Disability retirement	A member who completes fifteen (15) years of service, attains age fifty-five (55), and is ordered to retire by reason of disability is eligible for disability retirement benefits. The benefit, payable for life, is calculated in the same manner as a normal retirement benefit.
Survivor coverage	The spouse of a deceased active member who had met normal or vested retirement provisions may elect a spouse's benefit. The spouse's benefit is the benefit that would have been paid if the member had retired and elected the reduced benefit with the joint and 100% survivor option (Option B), or a 50% unreduced benefit for certain married participants making 8% of pay contributions prior to September 1, 2005. Spouses of members who made the voluntary contributions prior to July 1, 1999 and die or retire after July 1, 1999 may receive up to 65% of the unreduced benefit. If the member has ten (10) years of service and the death is determined to be employment related, this

Uniform Retirement System of Justices & Judges

Survivor coverage (cont.)

benefit is payable immediately to the spouse. Otherwise, the benefit is payable to the spouse on the date the deceased member would have been eligible. This benefit is payable only to the surviving spouse of a member and they must be married ninety (90) days prior to the member's termination of employment as a Justice or Judge.

Optional forms of retirement benefits

The Maximum Benefit is an unreduced single-life annuity with a guaranteed refund of the contribution accumulation. Three (3) other types of benefit payments are available to retiring members:

Option A – A reduced benefit with Joint and 50% Survivor annuity and a return to the unreduced amount if the joint annuitant dies.

Option B – A reduced benefit with Joint and 100% Survivor annuity and a return to the unreduced amount if the joint annuitant dies.

Original Surviving Spouse Plan – An unreduced benefit with Joint and 50% Survivor annuity available only to members who made additional voluntary survivor benefit contributions of 3% of salary prior to September 1, 2005. Spouses of members who made the voluntary contributions prior to July 1, 1999 and die or retire after July 1, 1999 may receive up to 65% of the unreduced benefit.

For married members, spousal consent is required for any option other than Option A, or a joint annuitant other than the spouse.

Post-retirement death benefit

Upon the death of any retired member, a $5,000 lump-sum death benefit will be paid to the member's beneficiary. If there is no beneficiary, then the benefit will be paid to the estate.

Minimum benefits

In no event will a member, or the estate of a member receive an amount or amounts less than the member's accumulated contributions without interest.

If a former member is not eligible for any other benefit from the System, the member will receive a transfer of these contributions. Similarly, if a member dies while having no spousal coverage, or upon the death of a spouse receiving survivor benefits, the member's beneficiary will receive the

Uniform Retirement System of Justices & Judges

Minimum benefits (cont.)	excess of the accumulated contributions over all benefits received by either the member, or the member and the spouse combined.
Supplemental medical insurance	The System contributes the lesser of $105 per month or the Medicare Supplement Premium to the Office of Management and Enterprise Services, Employees Group Insurance Division for members receiving retirement benefits.
Expenses	The expenses of administering the System are paid from the retirement trust fund.

Uniform Retirement System of Justices & Judges

Entry Age Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age Level Percent of Pay actuarial cost. Sometimes called the "funding method," this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the System is comprised of (1) the normal cost, and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each member would have been eligible to join the System if it then existed (thus, entry age) until his or her retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the System.

The **Actuarial Accrued Liability** under this method, at any point in time, is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The **Unfunded Actuarial Accrued Liability** is the excess of the actuarial accrued liability over the actuarial value of System assets on the valuation date.

Under this method, experience gains or losses, i.e. decreases or increases in actuarial accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Asset Valuation Method

The actuarial value of assets is based on a five-year moving average of expected and actual market values determined as follows:

- at the beginning of each fiscal year, a preliminary expected actuarial asset value is calculated as the sum of the previous year's actuarial value increased with a year's interest at the System valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the previous fiscal year;

- the expected actuarial asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous fiscal year;

- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous fiscal year;

- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five (5) previous fiscal years, but in no case more than 120% of the market value or less than 80% of the market value.

Uniform Retirement System of Justices & Judges

Amortization Method

Effective July 1, 2008, the unfunded actuarial accrued liability is amortized as a level percent of payroll over a 20-year closed period commencing July 1, 2007. Given a stable active workforce, this amortization method is expected to produce a payment stream that is consistent as a percent of covered payroll.

Valuation Procedures

The actuarial accrued liability held for nonvested, inactive members who have a break in service, or for nonvested members who have quit or been terminated, even if a break in service has not occurred as of the valuation date, is equal to the amount of the individual's unclaimed contributions.

The wages used to project the benefits and liabilities are actual earnings for the year ending June 30, 2020 increased by the salary scale to develop expected earnings for the current valuation year. Earnings are annualized for members with less than twelve months of reported earnings.

The calculations for the required employer contribution are determined as of mid-year. This is a reasonable estimate since contributions are made on a monthly basis throughout the year.

The projected benefit limitation under IRC Section 415 and compensation limitation under IRC Section 401(a)(17) are considered in this valuation.

Liability is included for members who appear to be deferred vested, but who have not yet submitted certain paperwork and therefore are not in the vested data provided. An estimated benefit was provided by the System. A corrected benefit and status will be provided by the System when the actual benefit and status have been finalized.

Members who are contributing to the System, but have not yet filled out an enrollment application, are included as active members. Where data elements are missing, reasonable estimates are used. Age is based on average entry age for other members. Gender is assigned in proportion to the overall group.

Uniform Retirement System of Justices & Judges

These assumptions were recommended in the 206-2019 Experience Study to the Board, which then adopted them. That report, which is available on the OPERS website, provides the rationale for the recommendations.

Economic Assumptions

Price Inflation: 2.50% per annum, compounded annually

Investment Return: 6.50% net of investment expenses per annum, compounded annually

Salary Increases: 3.50% per year

Payroll Growth: 3.25% per year

Ad hoc benefit increase assumption:
Monthly benefits No increases assumed
Medical supplement No increases assumed

Projection of 401(a)(17) compensation limit: Projected with inflation at 2.50%

Demographic Assumptions

Retirement age:

Attained Age	Annual Rates of Retirement Per 100 Eligible Members
Below 59	7
59 – 61	10
62 – 66	15
67 – 68	20
69 – 74	25
75+	100

Deferred vested members: Participants with deferred benefits are assumed to commence benefits on a date provided by the System. Actives expected to terminate with a vested benefit are assumed to commence benefits at age sixty (60).

Mortality Rates:

Active participants and non-disabled pensioners: Pub-2010 Below Median, General Membership Active/Retiree Healthy Mortality Table with base rates projected to 2030 using Scale MP-2019. Male rates are set back one year, and female rates are set forward one year.

Uniform Retirement System of Justices & Judges

Mortality Rates (Cont):	
Disabled pensioners	Nondisabled retiree mortality set forward 12 years for disabled experience.
Separation Rates:	
Separation for all reasons other than death	2% for all years of service prior to retirement eligibility.
Disability Rates:	0%
Marital Status:	
Age difference	Males are assumed to be four (4) years older than spouses.
Percentage married	85%
Other Assumptions:	
Provisions for expenses	Administrative expenses, as budgeted for the Oklahoma Uniform Retirement System for Justices and Judges.
Form of payment	Active members who were contributing 8% of pay as of August 31, 2005, are assumed to retire with an unreduced benefit payable as a 50% Joint and Survivor annuity. All other members are assumed to retire with a life-only annuity.
Age	For members who have not completed the application process and are missing a date of birth, we assume they are 50 years old as of the valuation date.
Service	For members who have not completed the application process and are missing an entry date, we assume they have half a year of service as of the valuation date.

Uniform Retirement system for Justices and Judges
Valuation Data Distribution - Actives

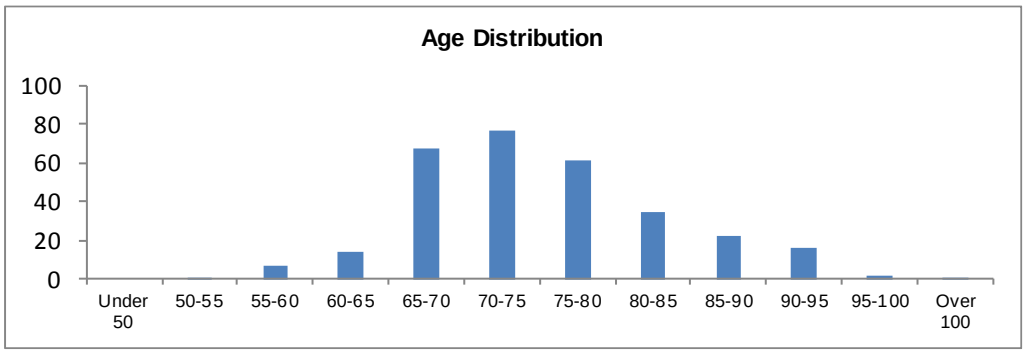
	Years of Service									
Age	**0 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 & Up**	**Total**
Under 35										
Avg. Pay										
35 to 39	13	3								16
Avg. Pay	$118,570	$124,872								$119,751
40 to 44	15	9	2							26
Avg. Pay	$125,593	$127,277	$128,479							$126,398
45 to 49	14	8	5	3						30
Avg. Pay	$106,699	$128,479	$138,045	$121,266						$119,188
50 to 54	12	7	6	2	2	1				30
Avg. Pay	$118,221	$130,088	$127,802	$128,479	$133,889	$128,479				$124,977
55 to 59	13	17	18	7	2	1				58
Avg. Pay	$121,696	$132,165	$129,080	$134,760	$139,298	$128,479				$129,357
60 to 64	9	19	9	6	4	1	2			50
Avg. Pay	$126,074	$133,297	$132,085	$121,266	$130,169	$160,096	$135,917			$130,726
65 to 69		11	7	4	5	2	2			31
Avg. Pay		$124,585	$129,445	$134,389	$129,497	$141,326	$159,407			$131,066
70 & up	1	3	5	4	3	1		1	4	22
Avg. Pay	$128,479	$128,479	$134,159	$128,479	$146,510	$146,059		$154,174	$150,578	$138,214
Total	77	77	52	26	16	6	4	1	4	263
Avg. Pay	$119,259	$129,790	$130,829	$128,582	$134,629	$140,961	$147,662	$154,174	$150,578	$128,023

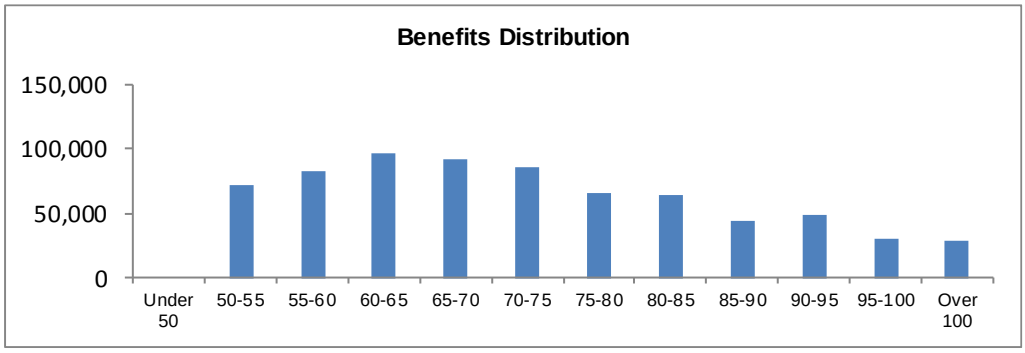
*Amounts are not annualized.

Uniform Retirement System For Justices & Judges

Retirees, Beneficiaries, & Disableds

Age	Number			Annual Benefits		
	Male	Female	Total	Male	Female	Total
Under 50	0	0	0	$ 0	$ 0	$ 0
50-55	0	1	1	0	71,728	71,728
55-60	3	4	7	313,738	267,004	580,742
60-65	11	3	14	1,096,107	251,174	1,347,281
65-70	48	20	68	4,707,125	1,522,658	6,229,783
70-75	65	12	77	5,895,440	683,948	6,579,388
75-80	39	22	61	2,649,192	1,328,463	3,977,655
80-85	26	9	35	1,803,792	428,336	2,232,128
85-90	7	15	22	499,536	487,257	986,793
90-95	5	11	16	364,789	413,081	777,870
95-100	1	1	2	42,107	17,299	59,406
Over 100	1	0	1	29,390	0	29,390
Total	206	98	304	$ 17,401,216	$ 5,470,948	$ 22,872,164





Uniform Retirement System For Justices & Judges

	Actuarial Valuation as of 7/1/2020	Actuarial Valuation as of 7/1/2019	% Change
1. Active members			
a. Number	263	269	(2.2%)
b. Annual compensation	$ 35,377,422	$ 35,112,886	0.8%
c. Average annual compensation	$ 134,515	$ 130,531	3.1%
d. Average age	56.6	56.3	0.5%
e. Average service	10.2	9.9	3.0%
2. Accumulated member contributions			
a. Active members	$ 23,802,541	$ 22,988,211	3.5%
b. Unclaimed contribution amounts	$ 258,130	$ 314,811	(18.0%)
c. Total	$ 24,060,671	$ 23,303,022	3.3%
3. Vested terminated members			
a. Number	15	18	(16.7%)
b. Annual deferred benefits	$ 733,378	$ 931,878	(21.3%)
c. Average annual deferred benefit	$ 48,892	$ 51,771	(5.6%)
d. Annual supplemental medical insurance premiums	$ 18,900	$ 22,680	(16.7%)
4. Retired members			
a. Number	235	233	0.9%
b. Annual retirement benefits	$ 20,111,814	$ 19,008,009	5.8%
c. Average annual retirement benefit	$ 85,582	$ 81,579	4.9%
d. Annual supplemental medical insurance premiums	$ 204,120	$ 206,640	(1.2%)
5. Beneficiaries			
a. Number	67	64	4.7%
b. Annual retirement benefits	$ 2,626,646	$ 2,371,773	10.7%
c. Average annual retirement benefit	$ 39,204	$ 37,059	5.8%
6. Disabled members			
a. Number	2	3	(33.3%)
b. Annual retirement benefits	$ 133,704	$ 189,531	(29.5%)
c. Average annual retirement benefit	$ 66,852	$ 63,177	5.8%
d. Annual supplemental medical insurance premiums	$ 1,260	$ 2,520	(50.0%)
7. Total members included in valuation	582	587	(0.9%)

Uniform Retirement System For Justices & Judges

			Receiving Benefits			
	Active Members	Vested Terminated	Retirees	Disability Retirees	Beneficiaries	Total Members
As of July 1, 2019	**269**	**18**	**233**	**3**	**64**	**587**
Age retirements	(10)	(3)	13	0	0	0
Disability retirements	0	0	0	0	0	0
Deaths without payments continuing	(1)	0	(6)	0	(4)	(11)
Deaths with payments continuing	0	(1)	(5)	(1)	7	0
Nonvested terminations/refund of contributions	(2)	0	0	0	0	(2)
Vested terminations	(1)	1	0	0	0	0
Transfers	0	0	0	0	0	0
Data adjustments	0	0	0	0	0	0
Rehires	0	0	0	0	0	0
New entrants during the year	8	0	0	0	0	8
Net change	(6)	(3)	2	(1)	3	(5)
As of July 1, 2020	**263**	**15**	**235**	**2**	**67**	**582**

	Active	Retired	Vested Terminated	Total
Records submitted on data file	288	529	11	828
Remove deceased retirees	0	(225)	0	(225)
Remove terminated employees	(25)	0	0	(25)
Add assumed vesteds	0	0	4	4
Data errors	0	0	0	0
Total valued	**263**	**304**	**15**	**582**

Uniform Retirement System of Justices & Judges

Accrued Benefit

The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.

Actuarial Accrued Liability

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement, and retirement; changes in compensation, rates of investment earnings, and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

Actuarial 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 (2) Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

Actuarial Valuation

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

Amortization Payment

That portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Deferred Vested Participant

A vested member who has terminated employment prior to early or normal retirement age who does not withdraw his or her contributions and is, therefore, due a retirement benefit at a later date.

Entry Age Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

Market Value of Assets

The fair value of cash, investments and other property belonging to a pension plan that could be acquired by exchanging them on the open market.

Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method Projected Benefits.

Projected Benefits

Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.

Unaccrued Benefit

The excess of an individual's Projected Benefits over the Accrued Benefits as of a specified date.

Unfunded Actuarial Accrued Liability

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

Withdrawal Liability

The liability due to an active member terminating employment with a deferred vested benefit.