



Mississippi Association of Supervisors

Ray Higgins

Executive Director

June 2021



PERS-at-a-Glance

- **Administers 25 Programs/Plans**
 - Public Employees' Retirement System (PERS)
 - Mississippi Highway Safety Patrol Retirement System (MHSPRS)
 - Municipal Retirement System (MRS)
 - 17 Fire and 2 Municipal Employee Plans
 - Supplemental Legislative Retirement Plan (SLRP)
 - Mississippi Government Employees' Deferred Compensation Plan and Trust
 - Optional Retirement Plan
 - PERS-sponsored Retiree Medical and Life Insurance Plan



Fiduciary Role

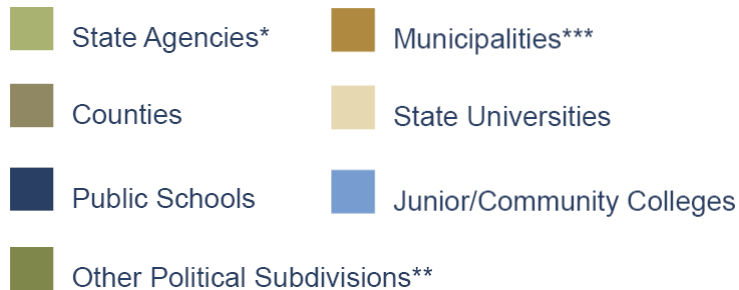
A fiduciary is a “person who is required to act for the benefit of another person on all matters within the scope of their relationship....”

Fiduciary considerations should be the guiding principle behind all actions taken and all decisions made by the Board of Trustees, both individually and collectively.



Total System Active Members

June 30, 2020

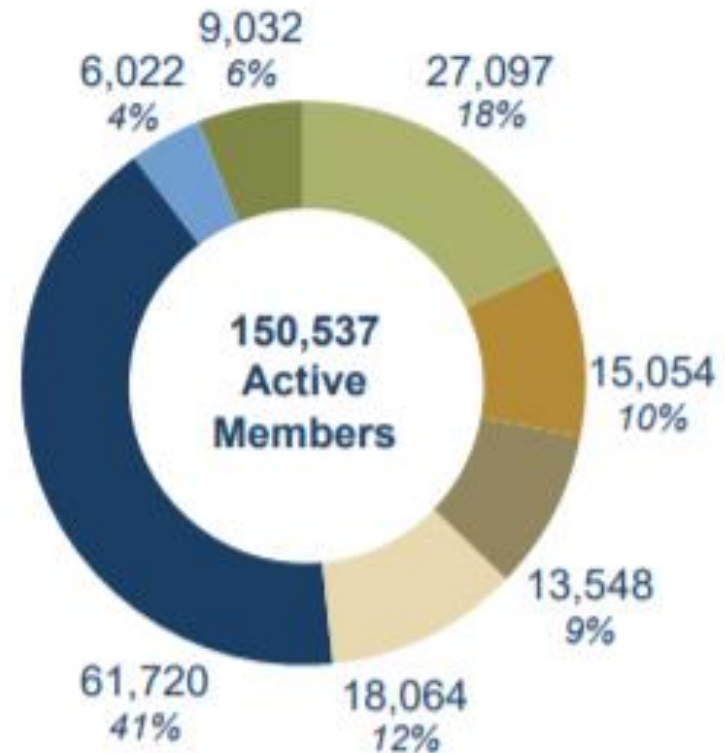


The current average annual PERS benefit including the Cost-of-Living Adjustment is \$25,0785 with \$2.9 billion paid in total retirement benefits for fiscal year 2020.

* Includes MHSPRS and SLRP

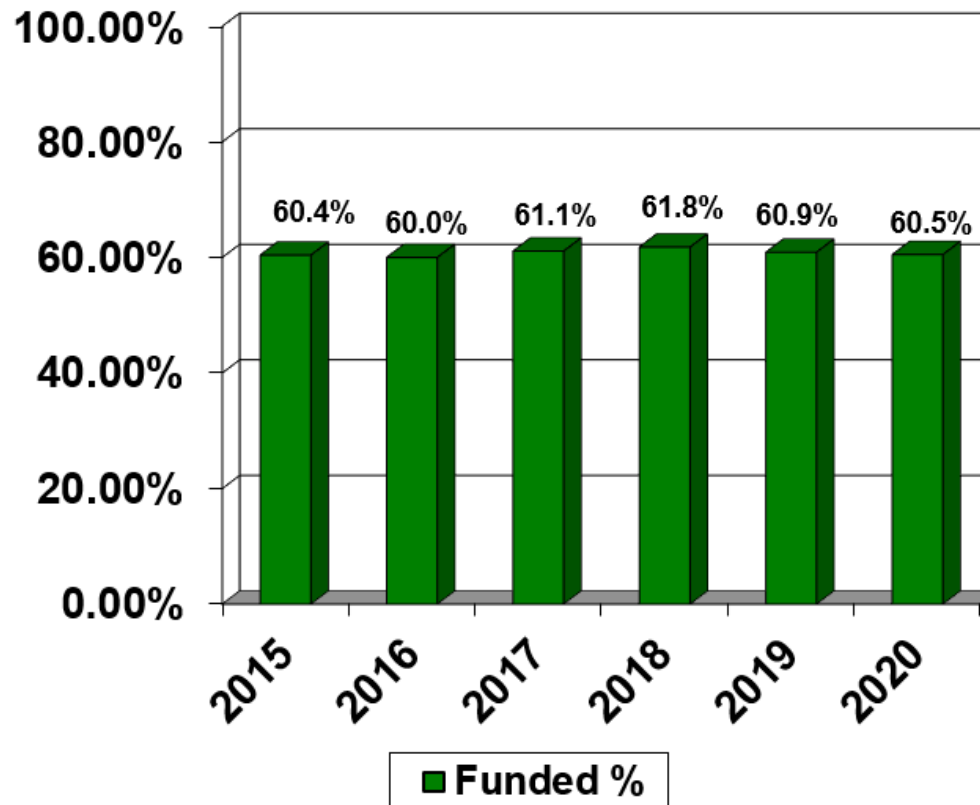
** Includes hospitals, libraries, and other juristic entities

*** Includes MRS



Actuarial Overview and Update

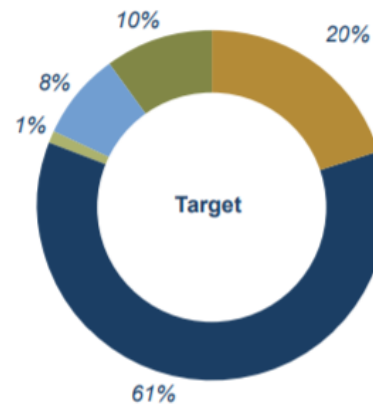
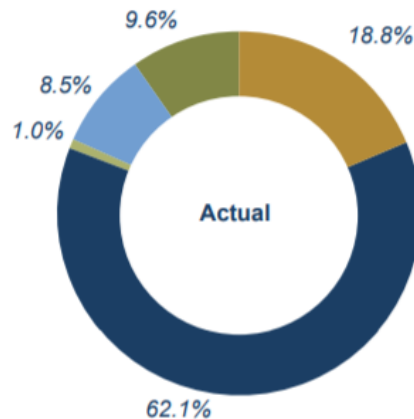
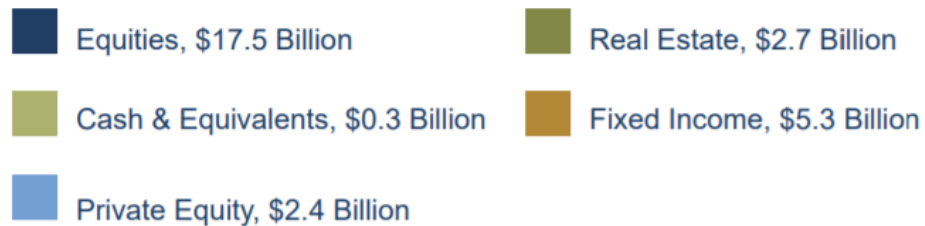
Funded Ratio





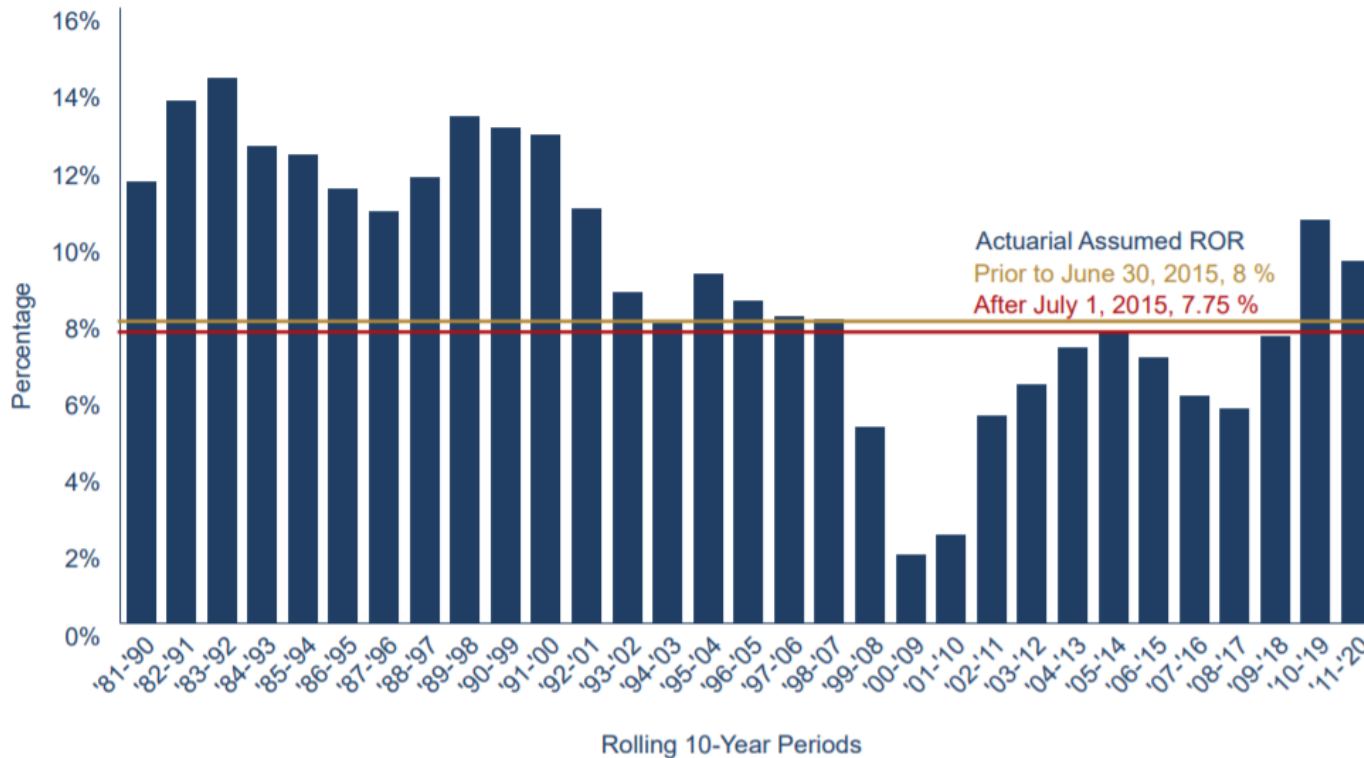
Investment Asset Allocation

Total Investment Assets for all Systems
as of June 30, 2020 = **\$28.2 Billion**





Investments Annualized Rates of Return



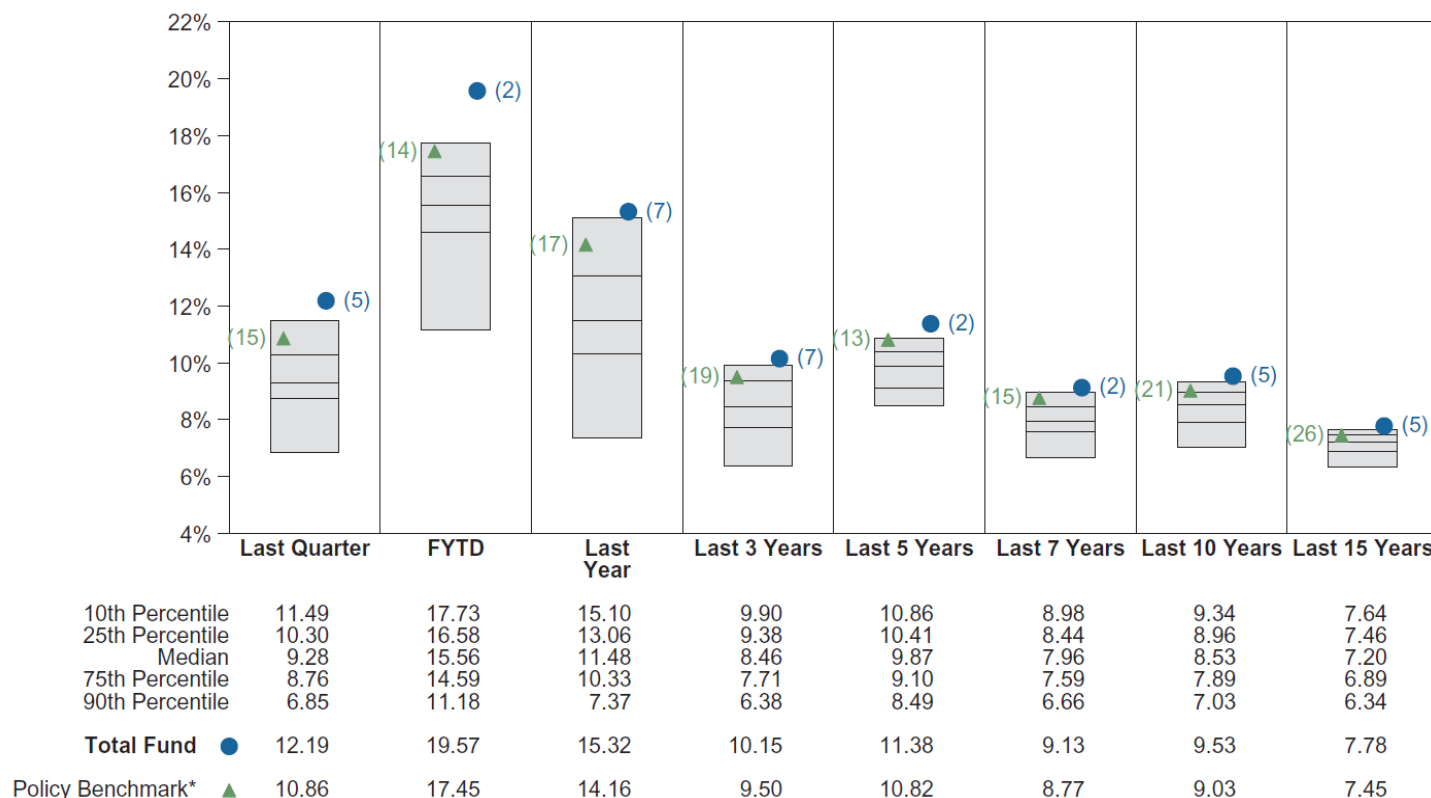
Historical Returns as of June 30, 2020, gross of fees

| | |
|----------------|-------|
| 1-Year | 3.35% |
| 3 -Year | 6.53% |
| 5 -Year | 7.05% |
| 10 -Year | 9.44% |
| 15-Year | 6.95% |
| 20 -Year | 5.81% |
| 25 -Year | 7.53% |
| 30-Year | 8.05% |



PERS Performance Comparison

PERS Performance vs. the Universe of Public Fund Sponsors of \$10 Billion or Greater as of December 31, 2020





Performance Highlights

March 31, 2021

- Total Fund assets stood at \$33.7 billion, an increase of approximately \$1.1 billion from 4Q20.
 - Approximately +\$1.3 billion increase in the market value of investments and -\$169 million in net cash outflows.
- Overall, the Total Fund allocation was in line with its strategic allocation.
 - An underweight to international equity (-0.5%), fixed income (-1.2%), and real estate (-1.3%) was offset by an overweight to domestic equity (+0.3%) and private equity (+2.0%).
- The Total Fund outperformed its benchmark in the quarter, returning 4.01% (gross of fees) versus 3.11% for the Policy Benchmark.
- Investments in the underlying asset classes performed as follows during the quarter:
 - The domestic equity composite posted a return of 7.33%, leading its benchmark by +0.98%.
 - The global equity composite returned 3.06%, trailing its benchmark by -2.08%.
 - The international equity composite posted a return of 3.85%, leading its benchmark by +0.08%.
 - The fixed income composite returned -3.28%, ahead of the benchmark by +0.09%.
 - The real estate composite gained 3.16%, outperforming its benchmark by +2.01%.
 - The private equity composite outperformed its custom benchmark by +4.50% due in part to lagged valuations.
- FYTD, the Total Fund leads its benchmark, returning 24.36% versus the Policy Benchmark return of 21.11%.
- Over longer periods, the Total Fund leads its benchmark over the trailing three-, five-, and ten-year periods by 0.73%, 0.78%, and 0.50%, respectively.



PERS Challenges and Opportunities

1998

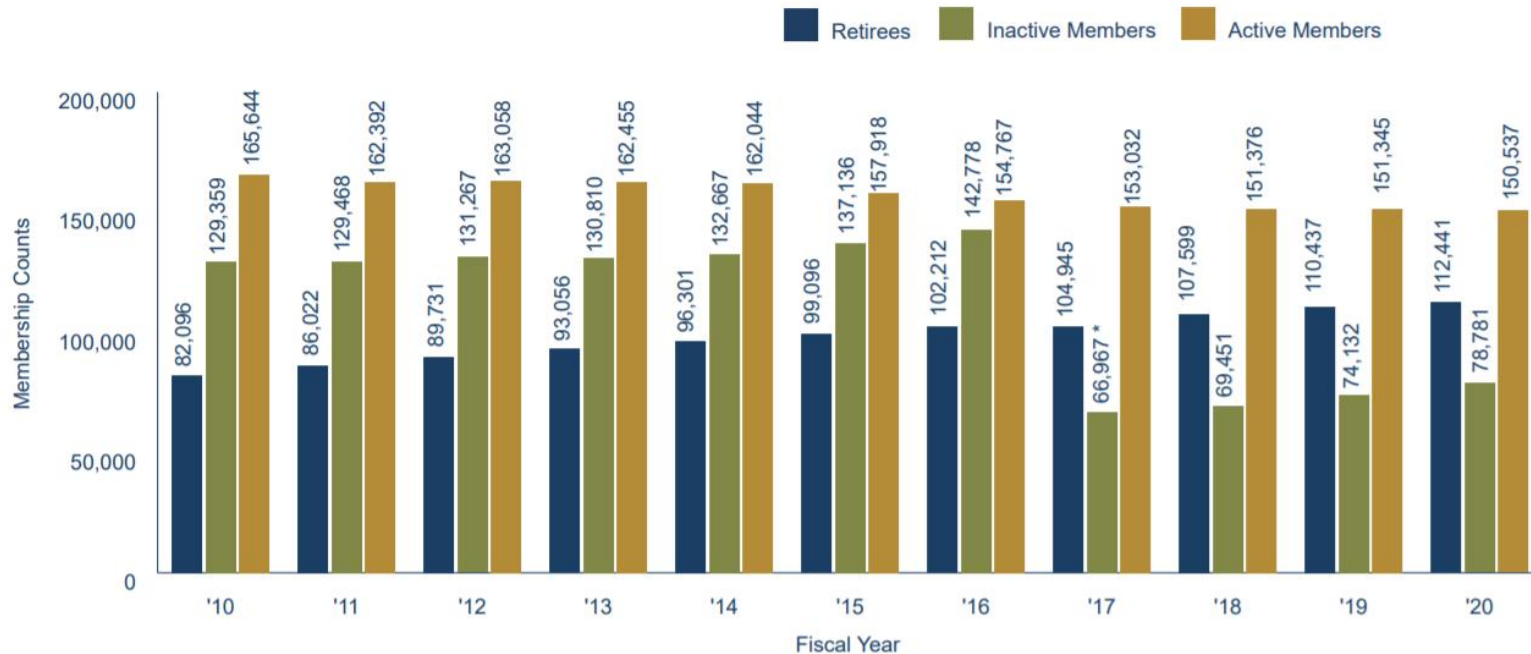


PERS Challenges and Opportunities

Mississippi has more than 262,978 working and retired state and local government employees. The active membership of PERS comprises 13.8 percent of Mississippi's workforce.

PERS is just one piece of the overall human resources package used to recruit and retain the quality workforce that is critical to the sound delivery of public services.

Total System Membership = 341,759

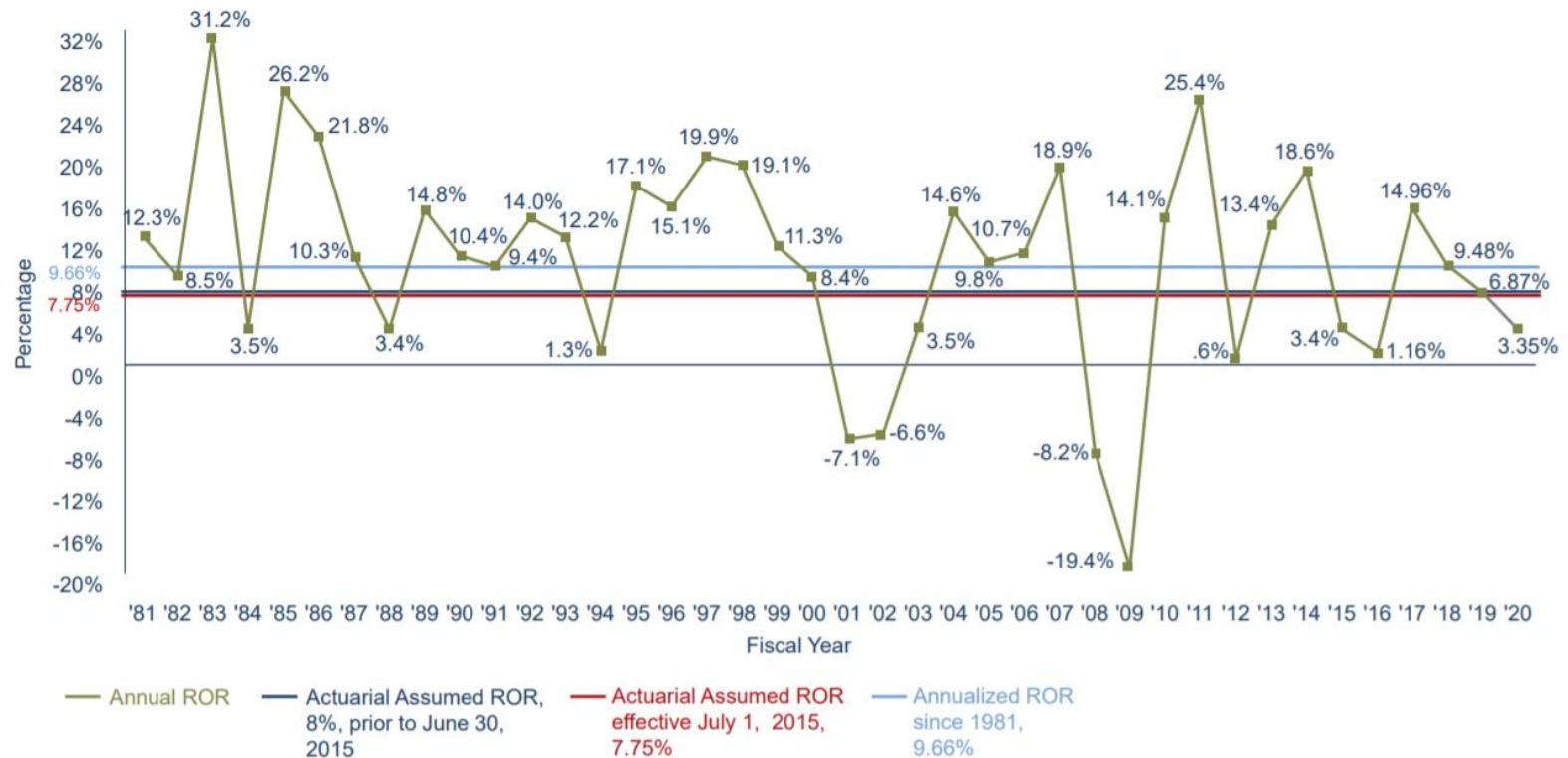


* Individual inactive accounts with small residual or zero balances removed from totals. No actuarial valuation measurements affected.



PERS Challenges and Opportunities

PERS began equity investments in August 1980. This chart demonstrates the volatility in the markets and the need to focus on the long term.





PERS Challenges and Opportunities

Economic Outlook

Role of economic variables

GDP and Inflation

GDP forecasts provide a very rough estimate of future earnings growth.

Inflation forecasts provide an approximate path for short-term yields.

Inflation is added to the real return forecasts for equity and fixed income.

GDP Forecasts

- 2% to 2.5% for the U.S.
- 1.5% to 2.0% for developed ex-U.S. markets
- 4% to 5% for emerging markets

All forecasts are below long-term averages.

Path to longer-term growth will include cycles with recessions.

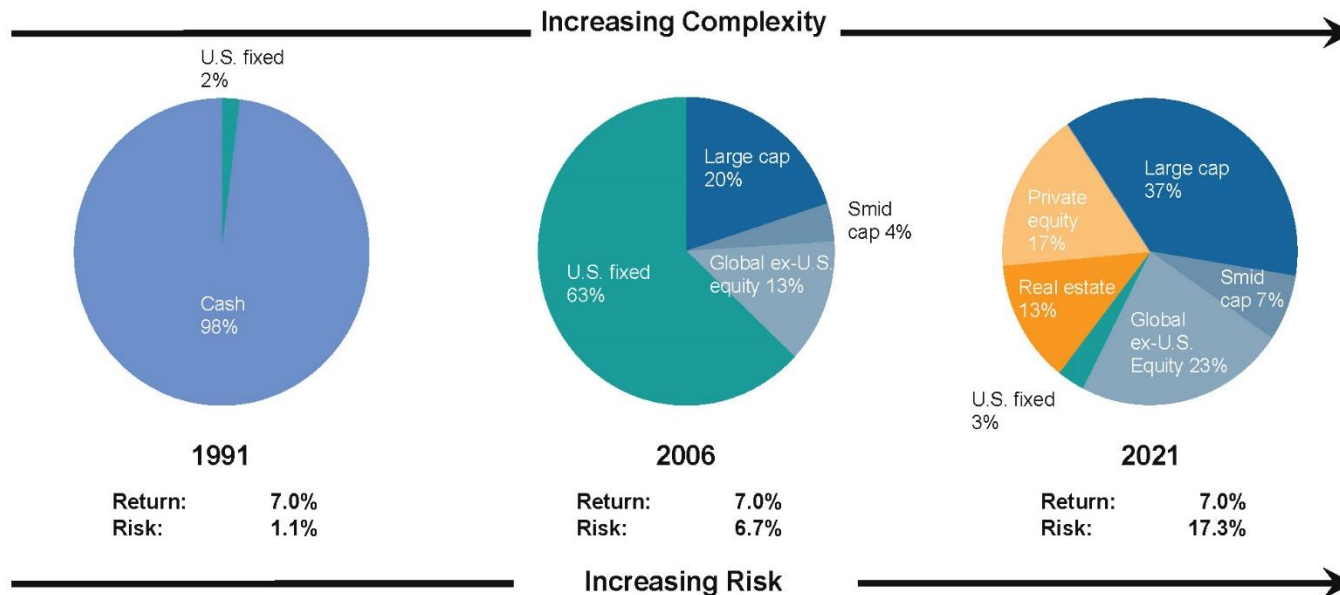
Inflation Forecasts

- 1.75% to 2.25% for the U.S.
- 1.5% to 2.0% for developed ex-U.S. markets
- 2.25% to 2.75% for emerging markets



PERS Challenges and Opportunities

7 Percent Expected Returns Over Past 30+ Years



In 1991, expectations for cash and broad U.S. fixed income were 6.95% and 8.95%, respectively

Return-seeking assets were not required to earn a 7% projected return

15 years later, an investor would have needed over a third of the portfolio in public equities to achieve a 7% projected return, with 6x the portfolio volatility of 1991

Today an investor is required to include 97% in return-seeking assets to earn a 7% projected return at almost 16x the volatility compared to 1991



PERS Challenges and Opportunities

PERS 10-Year Geometric Expected Return and Risk

| | MPERS Target |
|-------------------------------|--------------|
| US Equity | 27% |
| Non-US Equity | 22% |
| Global Equity | 12% |
| Private Equity | 8% |
| Real Estate | 10% |
| Fixed Income | 20% |
| Cash | 1% |
| Total | 100% |
| | |
| Projected Arithmetic Return | 7.02% |
| 10 Year Geometric Mean Return | 6.21% |
| Projected Standard Deviation | 14.03% |

Source: 2021 Callan Capital Market Assumptions



PERS Challenges and Opportunities

Funding Policy Assumption

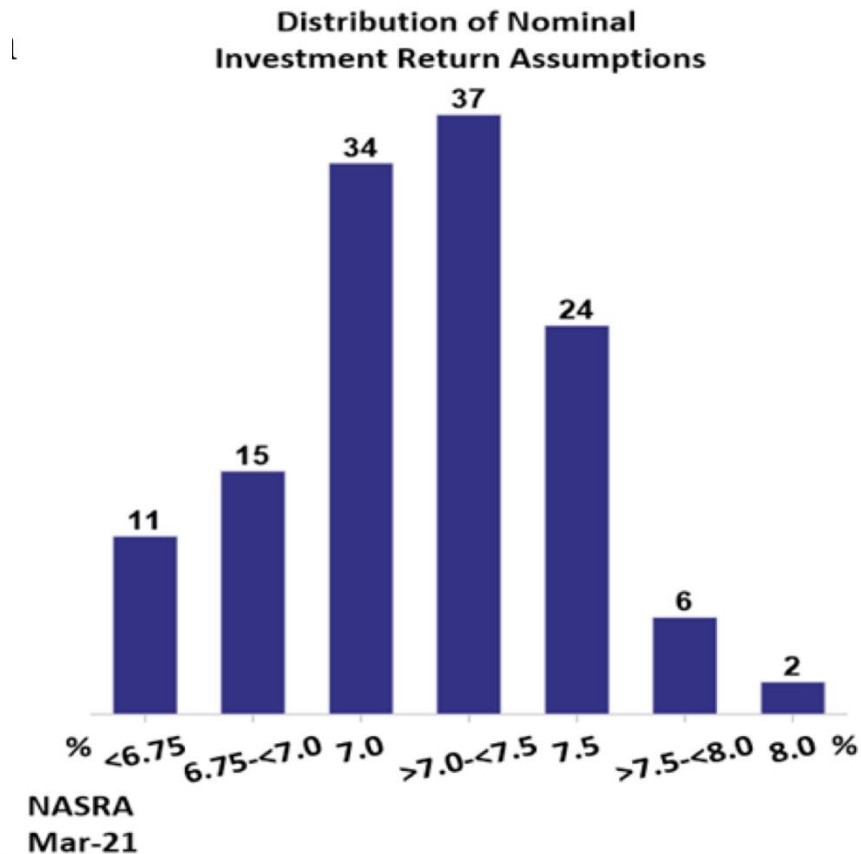
Investment Rate of Return

- Current assumption for PERS is 7.75%
- The PERS Board, staff and actuaries put together a plan to reach the lower recommended rate by implementing a phased-in approach using investment gains based on the following parameters:
 - 2% Excess return over assumed rate, lower assumption by 5 basis points,
 - 5% Excess return over assumed rate, lower assumption by 10 basis points,
 - 8% Excess return over assumed rate, lower assumption by 15 basis points,
 - 12% Excess return over assumed rate, lower assumption by 20 basis points.

Source: 2021 Cavanaugh Macdonald MS Experience Study

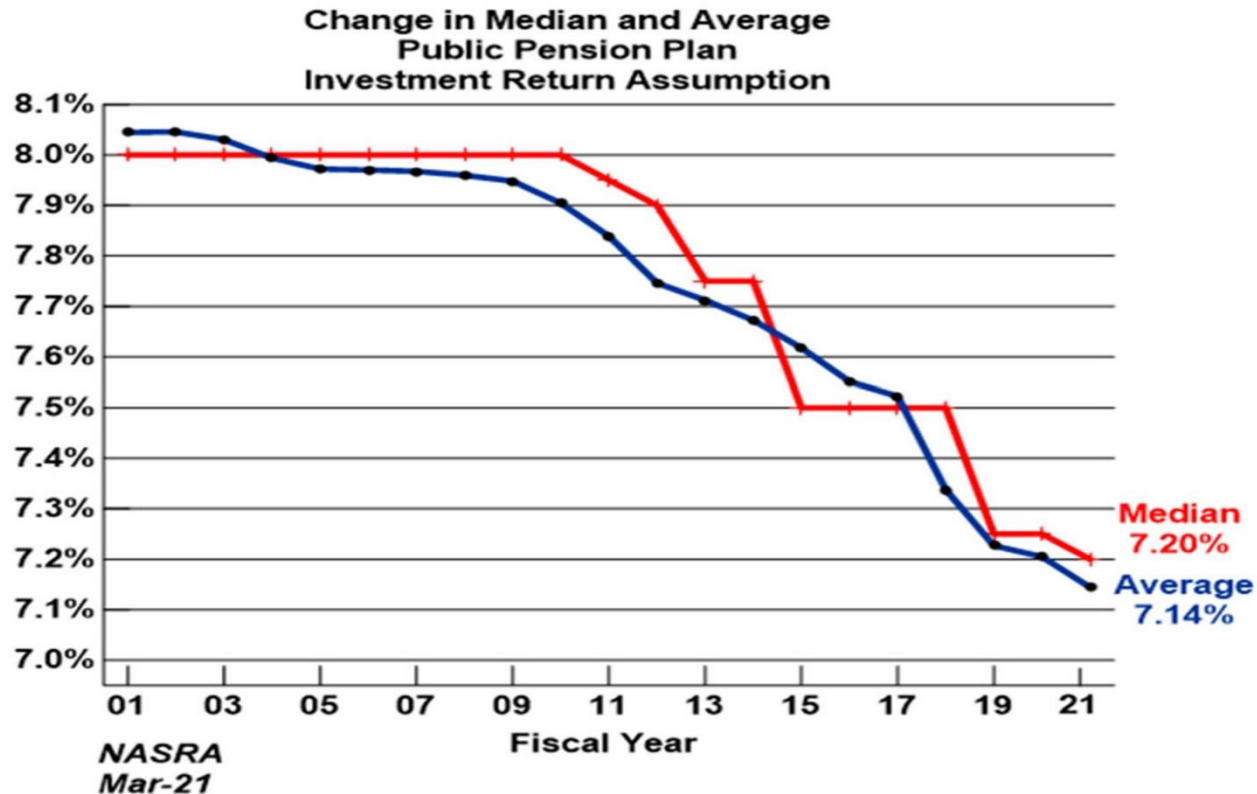
Actuarial Overview and Update

Economic Assumptions Investment Return



Actuarial Overview and Update

Economic Assumptions Investment Return





PERS Challenges and Opportunities

Looking ahead...



Funding Policy Metrics

Projected funded ratio

Cash flow as a percentage of beginning year assets

Actuarially determined contribution(ADC) ratio



Actuarial Overview and Update

FY 2020 Valuation and Projection Results - Key Findings

- Market Value of Return for the 2020 FYE was approximately 3% (last year was around 6.5%)
 - On an actuarial value basis, the return was 6.72% (last year was 7.19%) due to 5-year smoothing method
- Funded Ratio decreases from 60.9% to 60.5%
- Amortization period using current FCR of 17.40% of payroll is 37.1 years (last year was 36.2 years)
 - Increase mainly due to investment earnings on an actuarial value of assets basis worse than expected and losses due to aggregate demographic experience from PERS.
- Actuarially Determined Contribution (ADC) is 19.49% using funding policy methods
 - ADC/FCR ratio is 112.0% (last year ratio was 109.0%)



Actuarial Overview and Update

Projection Results (\$ in millions)

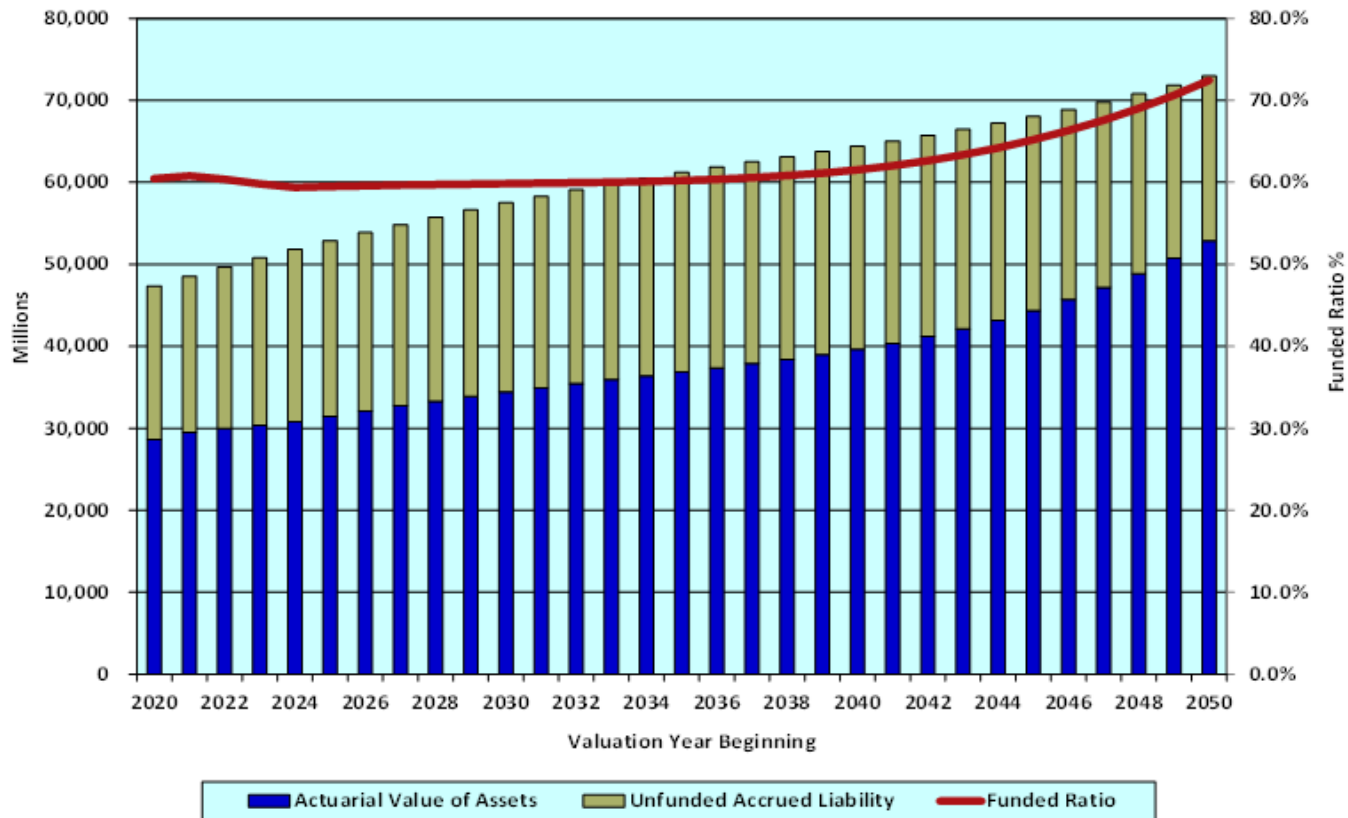
➤ Baseline Results at 7.75% (Stable 17.40% Rate)

| | 2020 | 2025 | 2030 | 2040 | 2047 | 2050 |
|----------------------|----------|----------|----------|----------|----------|----------|
| Total Payroll | \$6,287 | \$7,151 | \$8,136 | \$10,798 | \$13,296 | \$14,539 |
| UAL | \$18,725 | \$21,418 | \$23,085 | \$24,765 | \$22,619 | \$20,124 |
| Normal Cost Rate | 1.34% | 1.31% | 1.34% | 1.40% | 1.46% | 1.49% |
| UAL Rate | 16.06% | 16.09% | 16.06% | 16.00% | 15.94% | 15.91% |
| FCR Rate | 17.40% | 17.40% | 17.40% | 17.40% | 17.40% | 17.40% |
| Funding Ratio | 60.5% | 59.5% | 59.8% | 61.5% | 67.6% | 72.4% |
| Amortization Period | 37 years | 40 years | 35 years | 23 years | 14 years | 11 years |
| ADC | 19.49% | 21.23% | 22.66% | 27.65% | 31.55% | 14.36% |
| ADC/FCR Ratio | 112.0% | 122.0% | 130.2% | 158.9% | 181.3% | 82.6% |
| Cash Flow Percentage | -4.6% | -5.5% | -6.0% | -5.7% | -4.0% | -3.2% |

➤ Under baseline projection, the funded ratio is 67.6% in 2047.

Actuarial Overview and Update

30-Year Projection of Funded Ratio on Actuarial Asset Value – Based on June 30, 2020, Valuation Results





Actuarial Overview and Update

Projection Results (\$ in thousands)

- Cash flow as a percentage of assets
 - Review the difference between contributions coming into the trust and benefit payments going out of the trust as a percentage of existing market value of assets

| Baseline | 2020 | 2025 | 2030 | 2040 | 2050 |
|---|---------------|---------------|---------------|---------------|---------------|
| Market Value of Assets (MVA) | \$27,827,394 | \$31,453,817 | \$34,405,792 | \$39,627,789 | \$52,867,547 |
| Contributions | \$1,799,857 | \$1,992,195 | \$2,273,207 | \$3,024,653 | \$4,072,894 |
| Benefit Payments | (\$3,092,891) | (\$3,717,502) | (\$4,344,974) | (\$5,282,837) | (\$5,758,628) |
| Negative Cash Flow | (\$1,293,034) | (\$1,725,307) | (\$2,071,767) | (\$2,258,184) | (1,685,734) |
| Negative Cash Flow as percentage of MVA | -4.65% | -5.49% | -6.02% | -5.70% | -3.19% |

- Under the baseline projection the lowest cash flow rate is negative 6.20% in fiscal year ending 2035.



Actuarial Overview and Update

Actuarially Determined Contribution (ADC)

| Valuation Year | 2019 | 2020 |
|-----------------------------|--------|--------|
| Employer Normal Cost | 1.47% | 1.34% |
| Actuarial Accrued liability | 17.50 | 18.15 |
| Total ADC | 18.97% | 19.49% |
| ADC/FCR Ratio | 109.0% | 112.0% |
| Metric Status | Yellow | Red |



Actuarial Overview and Update

Conclusion

| Metric | 2020 Baseline Projection (7.75%) | Status |
|-------------------------------------|----------------------------------|--------|
| Funding Ratio in 2047 | 67.6% | Yellow |
| Cash Flow as a Percentage of Assets | -6.20% (2035) | Yellow |
| ADC/FCR Ratio from Valuation | 112.0% | Red |

- Does not meet the funding goals and benchmarks set by the Board in the current funding policy and an increase in the PERS employer contribution rate should be considered in order to get all three metrics back to the green status.



Actuarial Overview and Update

Conclusion *continued*

- During the 2019 experience investigation, we recommended a long-term investment return assumption of 7.50% and an upcoming experience study for 2021 is expected to result in a similar or possibly even reduced recommendation based on the continued forecast of inflation and real returns in the marketplace

| | Using a 7.75% Assumption | Using a 7.50% Assumption | Using a 7.25% Assumption |
|-------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Fixed Contribution Rate (FCR) | 19.60% | 20.50% | 22.25% |



Demographic Assumption

Demographic Assumptions Reviewed in FY 2020 Biennial Experience Study

- Rates of Withdrawal
- Rates of Disability Retirement
- Rates of Service Retirement
- Post-Retirement Mortality
- Pre-Retirement Mortality
- Rates of Salary Increase



Actuarial Overview and Update

Economic Assumptions reviewed in FY 2020 Biennial Experience Study

- Price Inflation
- Investment Return
- Wage Inflation



Actuarial Overview and Update

Economic Assumptions Investment Return

➤ Recommendation

- ASOP No. 27 building block approach

| Investment Return Assumption | | | |
|------------------------------|---------|---------------------|---------------------|
| | Current | Recommended 2019 | Recommended 2021 |
| Real Rate of Return | 5.00% | 4.75% | 4.60% |
| Inflation | 2.75% | 2.75% | 2.40% |
| Net Investment Return | 7.75% | 7.50% | 7.00% |



Actuarial Overview and Update

Economic Assumptions Investment Return

- Current assumption: 3.00%, which is 0.25% above price inflation
- Social Security 75-year projection of national wage growth assumption is 1.1% greater than price inflation.
- However, PERS continues to experience gains on the salary assumption (actual increases are less than expected)
- Recommendation

| Wage Inflation Assumption | | |
|---------------------------|---------|-------------|
| | Current | Recommended |
| Price Inflation | 2.75% | 2.40% |
| Real Wage Growth | 0.25% | 0.25% |
| Wage Inflation | 3.00% | 2.65% |



Actuarial Overview and Update

FY 2020 Experience Study – Key Findings

Financial Impact on 06/30/2020 PERS Valuation

(\$ thousands)

| | Before All Changes | After All Changes at 7.75% | After All Changes at 7.00% |
|----------------------------------|-----------------------|----------------------------------|----------------------------------|
| UAL | \$18,725,259 | \$19,058,031 | \$23,333,807 |
| Funding Ratio in 2020 | 60.5% | 60.0% | 55.1% |
| 2020 ADC | 19.49% | 20.59% | 25.09% |
| UAL Amortization Period (years)* | 37.1 | 47.2 | Infinite |
| Funding Ratio in 2047 | 67.6% | 63.4% | 40.4% |

* Fixed contribution rates kept constant.



Plan Funding

$$\mathbf{C + I = B + E}$$

Contributions + Interest = Benefits + Expenses



Benefit Determination

- **Service Retirement Benefit Formula**
Service Credit Factor x Average Compensation = Maximum Annual Benefit
- **Service Credit Factor** (if you were hired on or before June 30, 2011)
 - 2% of Average Compensation per year up to 25.00 years of creditable service **PLUS**
 - 2.5% of Average Compensation per year for each year of creditable service over 25.00
- **Service Credit Factor** (if you were hired on or after July 1, 2011)
 - 2% of Average Compensation per year up to 30.00 years of creditable service **PLUS**
 - 2.5% of Average Compensation per year for each year of creditable service over 30.00



Vesting – How

- 4 years of membership service if you were hired on or before June 30, 2007 (*member is vested after 4 years*).
- 8 years of membership service if you were hired on or after July 1, 2007 (*member is vested after 8 years*).



PERS Retirement Eligibility

Service Retirement Requirements

- 25 years of *creditable* service, regardless of age, (if you were hired on or before June 30, 2011)
- 30 years of *creditable* service, regardless of age, (if you were hired on or after July 1, 2011)

OR

- Vested status - 4 or 8 years of *membership* service - at age 60.



Average Compensation

- **4 highest years of salary**
 - 4 highest fiscal years, or
 - 4 highest calendar years, or
 - 4 highest calendar and fiscal years that do not overlap, or
 - Final 48 months of earned compensation prior to termination of employment.
 - Payment by Employer for Accumulated Unused Leave (where available)

PERS

$$\frac{\text{Highest 4 Years} + \text{Leave Payment}}{4} = \text{Average Compensation}$$



Mississippi Deferred Compensation

PERS is the Administrator for the Mississippi Deferred Compensation Plan and Trust, IRC § 457 supplementary defined contribution plan available to participating employers

- Established in 1973
- 39,787 participants
- \$1.9 billion in net assets
- Counties and cities may provide an employer match
- Independent contractors, e.g., Medicaid providers, may participate



Mississippi Deferred Compensation

Benefits of MDC

- Tax-deferred savings
- Convenient payroll deduction
- Education, planning tools, and support
- Local MDC Retirement Plan Advisors
- Wide array of investment options
- Lower administrative fees



Mississippi Deferred Compensation

How much can you contribute?

- MDC minimum pay period contribution: \$25
- IRS Annual limit for individual: \$19,500
- Catch-up Contributions: An additional \$6,400 for age 50 and older
- Special Catch-up: Up to double the maximum limit: \$39,000 within three years of your plan's designated normal retirement age if you under-contributed during earlier years

**Both the age 50+ catch-up and the Special catch-up cannot be used in the same year.*

Mississippi Deferred Compensation

Mississippi Deferred Compensation

MEET YOUR LOCAL RETIREMENT PLAN ADVISOR



Your MDC Retirement Plan Advisors have built their careers on assisting individuals in nearly every facet of retirement planning and educational topics, including: **enrolling, plan features, savings goals, budgeting, investing, and retirement readiness.**



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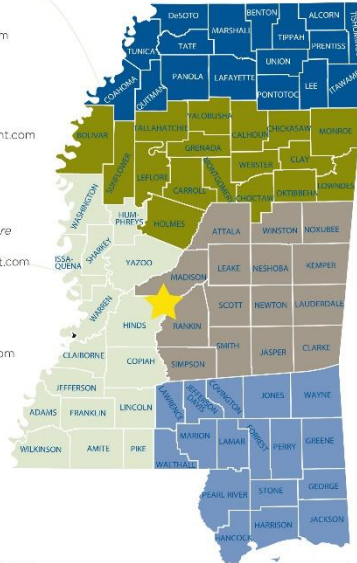
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★ Agencies within Madison, Hinds, and Rankin counties are served by the above Retirement Plan Advisors.

[Click here to schedule a free one-on-one meeting](#) or call **(800) 846-4551** if you are unsure of which Retirement Plan Advisor to contact.



Questions?