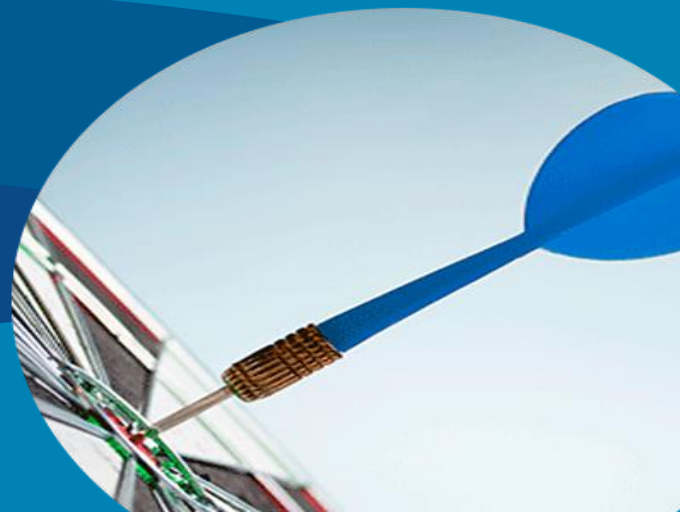


# Kentucky Retirement Systems

2019 Actuarial Valuation Results  
November 14, 2019

Janie Shaw, ASA, MAAA  
Danny White, FSA, EA, MAAA



# Agenda

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- **Summary of Valuation Results**
  - Comments on valuation results
  - Demographic experience
  - Contribution rates and funded status
- **Projection Information for Pension and Insurance**
  - Unfunded liability and funded ratio
  - Contribution dollars and rate of pay
- **Closing Comments on 2019 Valuation Results**

# Comment on KERS Non-Haz Retirement Fund

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- Imperative to maintain or increase contribution effort for the KERS Non-Hazardous Retirement Fund
  - June 30, 2019 assets were \$2,234 million
  - Benefit payments for the 2019 fiscal year were \$1,001 million
  - Expected FY 2020 employer and member contributions are \$996 million
    - Expected contributions \$97 million less due to enactment of HB 1 during the 2019 special session

# Comments on Valuation Results

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- Valuation results include new assumptions that were adopted by the Board in April 2019
- FY 2019 investment experience
  - 5.0% to 5.8% return (varies by fund)
    - Assumed rate of return is 5.25% for KERS Non-Haz and SPRS retirement funds and 6.25% for all other funds)
  - Net \$89 million less in plan assets than expected (\$52 million for pension and \$37 million for insurance funds)
- Change in active membership and covered payroll
  - Active membership declined in all funds except CERS Haz
  - Covered payroll decreased in both KERS Systems and the SPRS
  - Covered payroll increased by 2.2% and 4.8% for CERS Non-Haz and Haz, respectively

# Comments on Valuation Results (continued)

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- Retirement fund liability experience
  - \$1,801 million increase in liability for all retirement funds combined due to assumption changes (4.2% to 5.6% increase in liability)
  - Additional \$354 million loss for all retirement funds combined (0.0% to 1.5% increase in liability)
- Insurance fund liability experience
  - Higher than expected Medicare premiums for 2019 resulting in liability losses for the non-hazardous plans
  - Net \$105 million liability loss for all insurance funds combined (2.9% decrease to 2.7% increase in liability)
  - \$489 million increase in liability due to assumption changes (2.7% to 7.7% increase in liability)

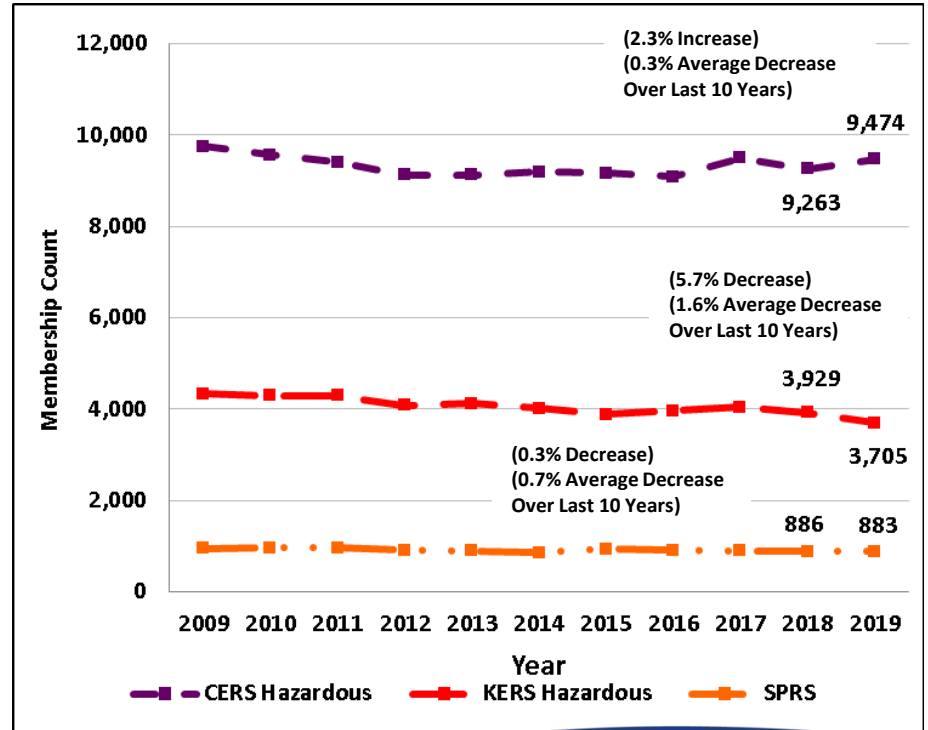
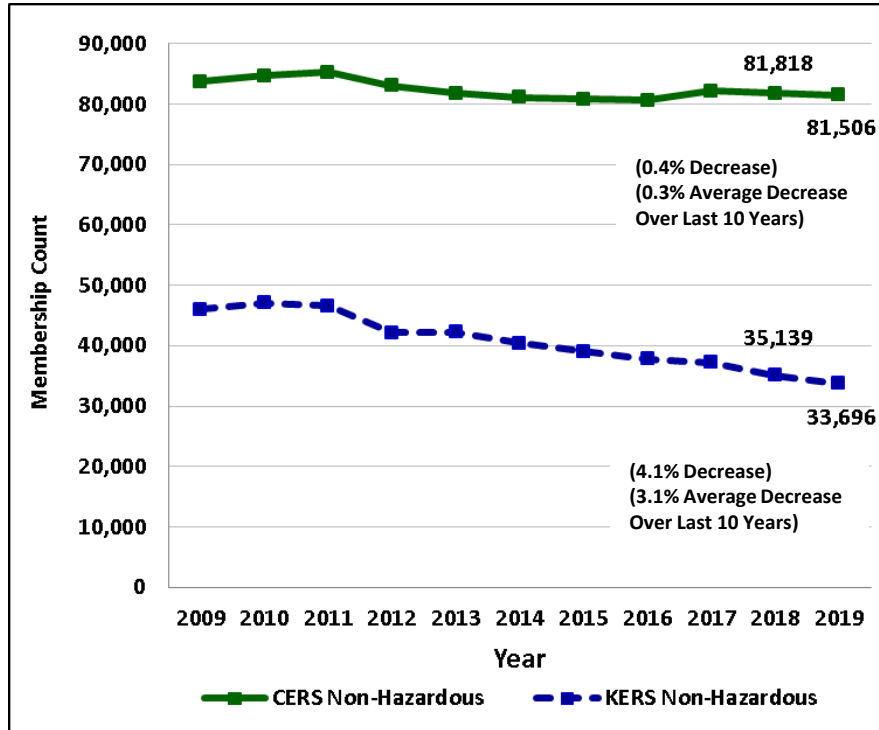
# Employer Contribution Rates Comparison

Item	2018 Valuation			2019 Valuation			Current Rate
	Pension	Insurance	Combined	Pension	Insurance	Combined	FY 2020
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
KERS Non-Hazardous	74.54%	10.65%	<b>85.19%</b>	80.98%	12.03%	<b>93.01%</b>	<b>83.43%</b>
KERS Hazardous	34.42%	0.00%	<b>34.42%</b>	38.71%	0.00%	<b>38.71%</b>	<b>36.85%</b>
CERS Non-Hazardous	22.52%	4.76%	<b>27.28%</b>	26.21%	5.78%	<b>31.99%</b>	<b>24.06%</b>
CERS Hazardous	36.98%	9.52%	<b>46.50%</b>	46.31%	10.47%	<b>56.78%</b>	<b>39.58%</b>
SPRS	120.54%	19.50%	<b>140.04%</b>	136.12%	20.85%	<b>156.97%</b>	<b>146.28%</b>

# Unfunded Actuarial Accrued Liability – Actuarial Value of Asset Basis (\$ in Billions)

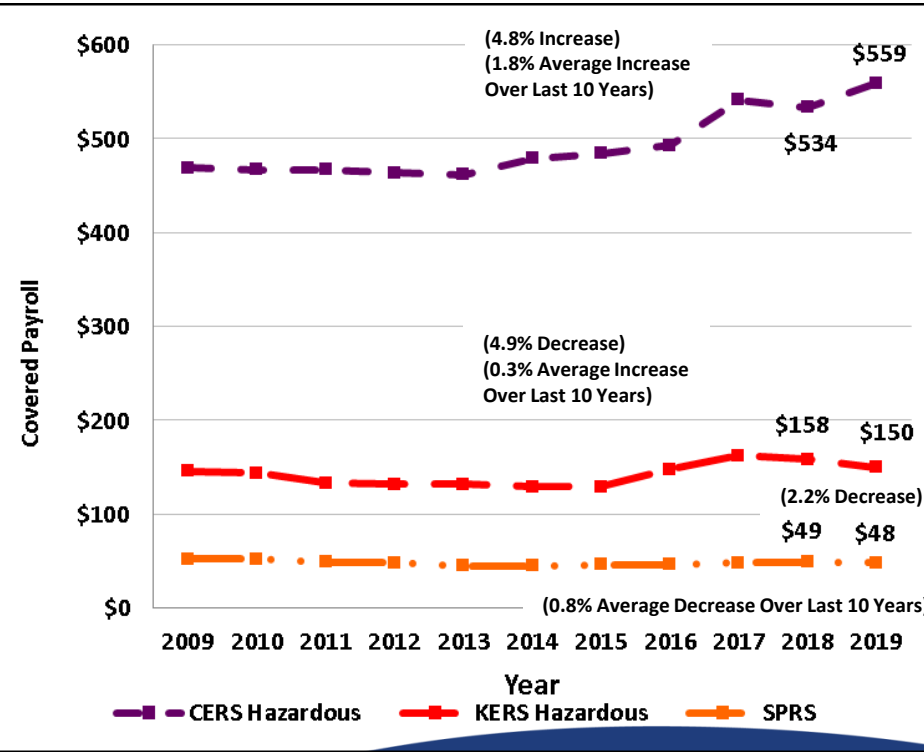
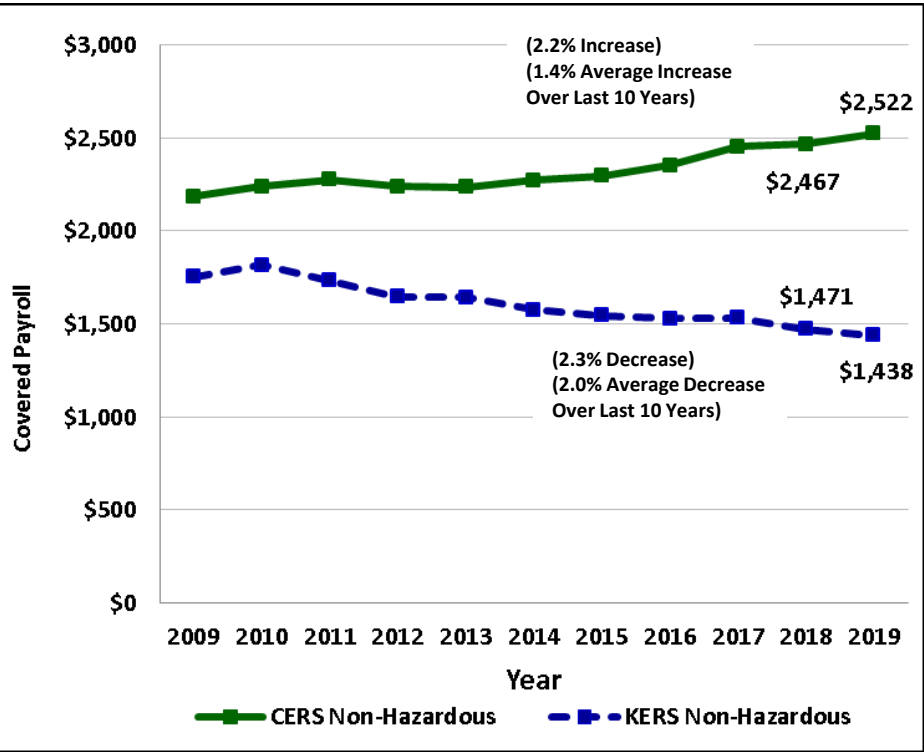
Item	2018 Valuation			2019 Valuation			Change In UAAL
	Pension	Insurance	Combined	Pension	Insurance	Combined	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
KERS Non-Hazardous	\$13.66	\$1.55	\$15.21	\$14.26	\$1.74	\$16.00	<b>\$0.79</b>
KERS Hazardous	0.51	(0.12)	0.39	0.55	(0.10)	0.45	<b>\$0.06</b>
CERS Non-Hazardous	6.24	0.72	6.96	7.31	1.04	8.35	<b>\$1.39</b>
CERS Hazardous	2.47	0.43	2.90	2.87	0.42	3.29	<b>\$0.39</b>
SPRS	0.72	0.07	0.79	0.76	0.08	0.84	<b>\$0.05</b>
<b>Total</b>	<b>\$23.60</b>	<b>\$2.65</b>	<b>\$26.25</b>	<b>\$25.75</b>	<b>\$3.18</b>	<b>\$28.93</b>	<b>\$2.68</b>

# Active Membership Count

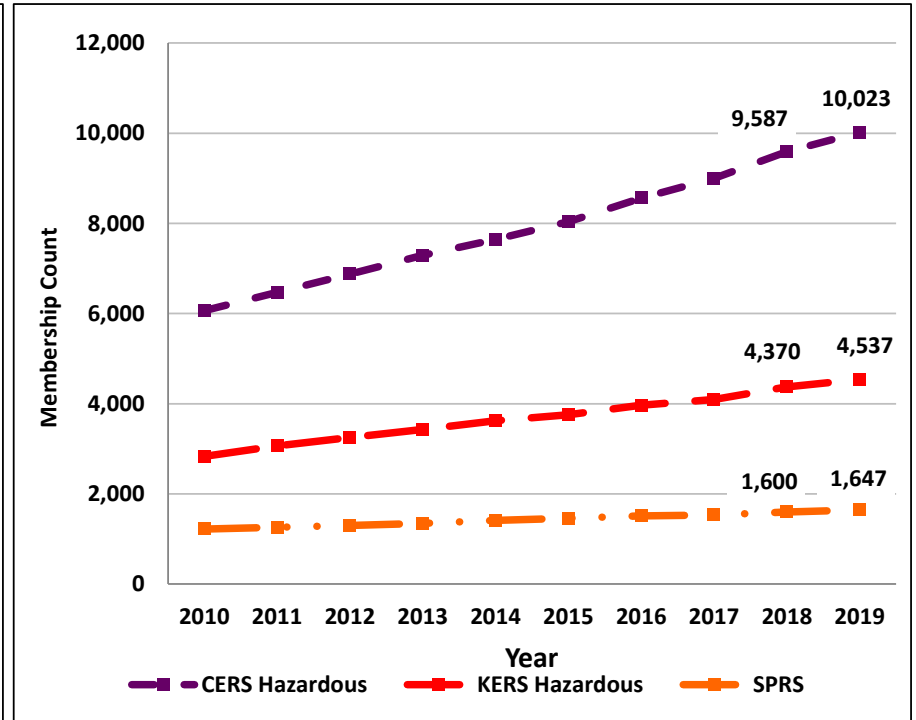
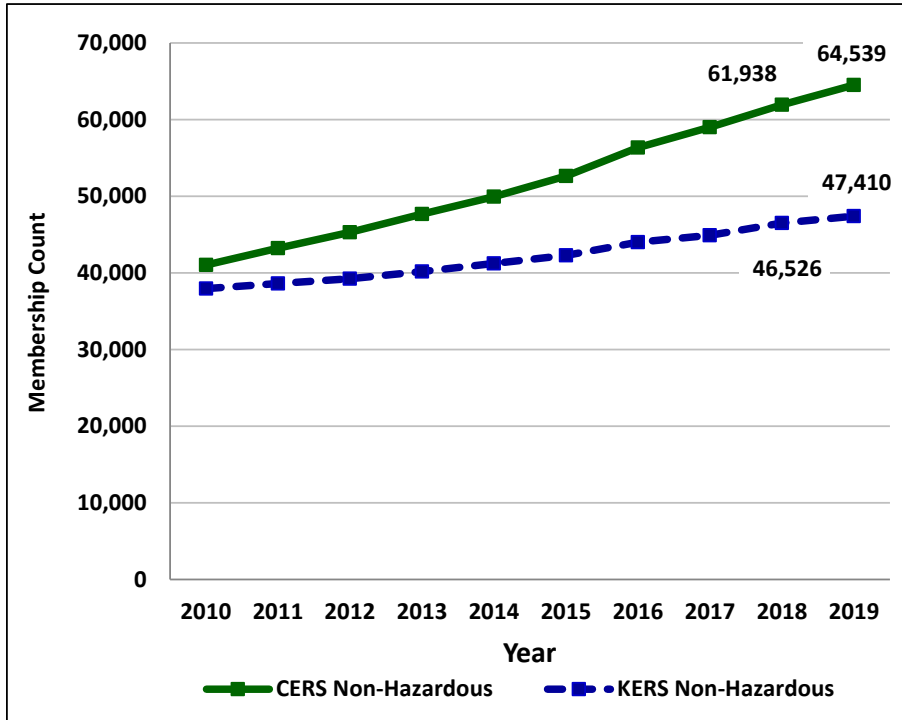




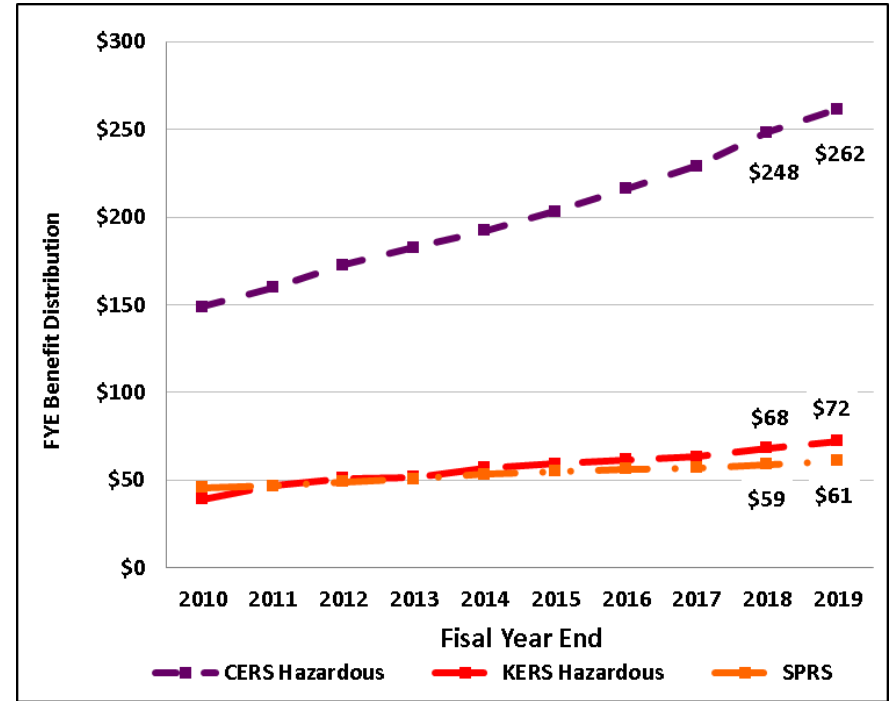
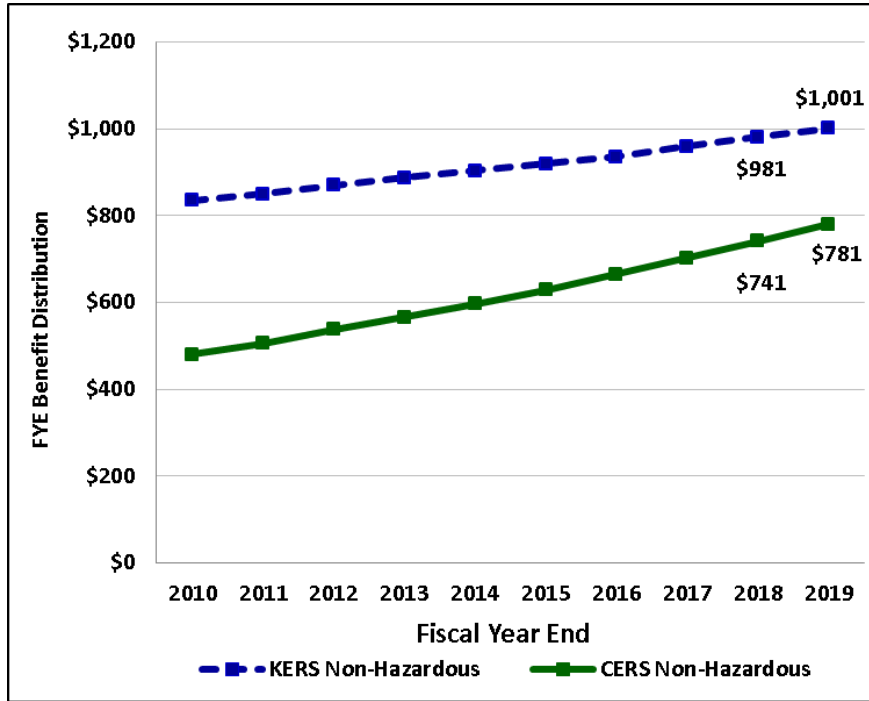
# Covered Payroll (\$ in Millions)



# Retired Membership Count



# Benefit Distributions (\$ in Millions)



# Funding Results – KERS (\$ in millions)

Item	NonHazardous System				Hazardous System			
	Pension		Insurance		Pension		Insurance	
	2019	2018	2019	2018	2019	2018	2019	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	12.18%	12.25%	2.71%	2.83%	16.48%	16.62%	4.92%	5.73%
Member Rate	<u>(5.00%)</u>	<u>(5.00%)</u>	<u>(0.41%)</u>	<u>(0.40%)</u>	<u>(8.00%)</u>	<u>(8.00%)</u>	<u>(0.60%)</u>	<u>(0.58%)</u>
Employer Normal Cost Rate	7.18%	7.25%	2.30%	2.43%	8.48%	8.62%	4.32%	5.15%
Administrative Expenses	0.81%	0.73%	0.06%	0.05%	0.73%	0.62%	0.08%	0.07%
Amortization Cost	<u>72.99%</u>	<u>66.56%</u>	<u>9.67%</u>	<u>8.17%</u>	<u>29.50%</u>	<u>25.18%</u>	<u>(5.47%)</u>	<u>(6.09%)</u>
<b>Total Employer Contribution Rate</b>	<b>80.98%</b>	<b>74.54%</b>	<b>12.03%</b>	<b>10.65%</b>	<b>38.71%</b>	<b>34.42%</b>	<b>0.00%</b>	<b>0.00%</b>
Actuarial Accrued Liability	\$16,466	\$15,675	\$2,733	\$2,436	\$1,226	\$1,152	\$427	\$393
Actuarial Value of Assets	<u>2,206</u>	<u>2,019</u>	<u>991</u>	<u>887</u>	<u>672</u>	<u>639</u>	<u>525</u>	<u>511</u>
<b>Unfunded Actuarial Accrued Liability</b>	<b>\$14,260</b>	<b>\$13,656</b>	<b>\$1,742</b>	<b>\$1,548</b>	<b>\$555</b>	<b>\$513</b>	<b>(\$99)</b>	<b>(\$118)</b>
<b>Funded Ratio</b>	<b>13.4%</b>	<b>12.9%</b>	<b>36.3%</b>	<b>36.4%</b>	<b>54.8%</b>	<b>55.5%</b>	<b>123.1%</b>	<b>130.0%</b>

# Funding Results – CERS (\$ in millions)

Item	NonHazardous System				Hazardous System			
	Pension		Insurance		Pension		Insurance	
	2019	2018	2019	2018	2019	2018	2019	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	10.77%	10.01%	3.40%	3.32%	19.05%	14.07%	5.84%	4.74%
Member Rate	<u>(5.00%)</u>	<u>(5.00%)</u>	<u>(0.49%)</u>	<u>(0.46%)</u>	<u>(8.00%)</u>	<u>(8.00%)</u>	<u>(0.46%)</u>	<u>(0.41%)</u>
Employer Normal Cost Rate	5.77%	5.01%	2.91%	2.86%	11.05%	6.07%	5.38%	4.33%
Administrative Expenses	0.86%	0.79%	0.04%	0.03%	0.31%	0.28%	0.08%	0.07%
Amortization Cost	<u>19.58%</u>	<u>16.72%</u>	<u>2.83%</u>	<u>1.87%</u>	<u>34.95%</u>	<u>30.63%</u>	<u>5.01%</u>	<u>5.12%</u>
<b>Total Employer Contribution Rate</b>	<b>26.21%</b>	<b>22.52%</b>	<b>5.78%</b>	<b>4.76%</b>	<b>46.31%</b>	<b>36.98%</b>	<b>10.47%</b>	<b>9.52%</b>
Actuarial Accrued Liability	\$14,356	\$13,191	\$3,568	\$3,093	\$5,245	\$4,793	\$1,733	\$1,684
Actuarial Value of Assets	<u>7,050</u>	<u>6,950</u>	<u>2,523</u>	<u>2,371</u>	<u>2,375</u>	<u>2,322</u>	<u>1,314</u>	<u>1,256</u>
<b>Unfunded Actuarial Accrued Liability</b>	<b>\$7,307</b>	<b>\$6,241</b>	<b>\$1,045</b>	<b>\$721</b>	<b>\$2,870</b>	<b>\$2,471</b>	<b>\$419</b>	<b>\$428</b>
<b>Funded Ratio</b>	<b>49.1%</b>	<b>52.7%</b>	<b>70.7%</b>	<b>76.7%</b>	<b>45.3%</b>	<b>48.4%</b>	<b>75.8%</b>	<b>74.6%</b>

# Funding Results – SPRS (\$ in millions)

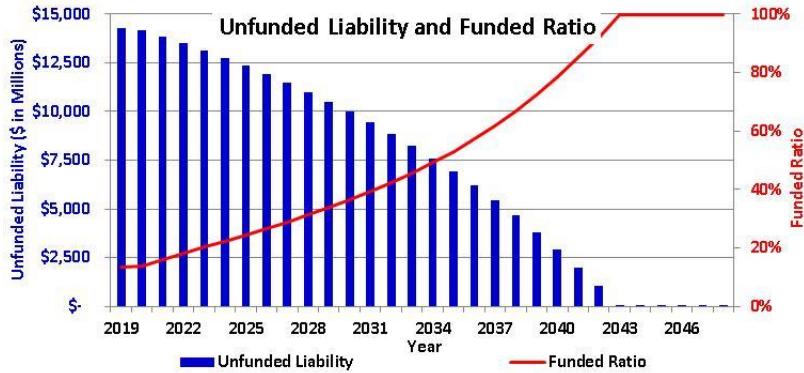
Item	Pension		Insurance	
	2019	2018	2019	2018
(1)	(2)	(3)	(4)	(5)
Total Normal Cost Rate	26.92%	23.41%	8.41%	8.29%
Member Rate	<u>(8.00%)</u>	<u>(8.00%)</u>	<u>(0.40%)</u>	<u>(0.35%)</u>
Employer Normal Cost Rate	18.92%	15.41%	8.01%	7.94%
Administrative Expenses	0.47%	0.40%	0.14%	0.13%
Amortization Cost	<u>116.73%</u>	<u>104.73%</u>	<u>12.70%</u>	<u>11.43%</u>
<b>Total Employer Contribution Rate</b>	<b>136.12%</b>	<b>120.54%</b>	<b>20.85%</b>	<b>19.50%</b>
Actuarial Accrued Liability	\$1,045	\$989	277	262
Actuarial Value of Assets	<u>282</u>	<u>268</u>	<u>197</u>	<u>188</u>
<b>Unfunded Actuarial Accrued Liability</b>	<b>\$763</b>	<b>\$721</b>	<b>\$79</b>	<b>\$74</b>
<b>Funded Ratio</b>	<b>27.0%</b>	<b>27.1%</b>	<b>71.3%</b>	<b>71.6%</b>

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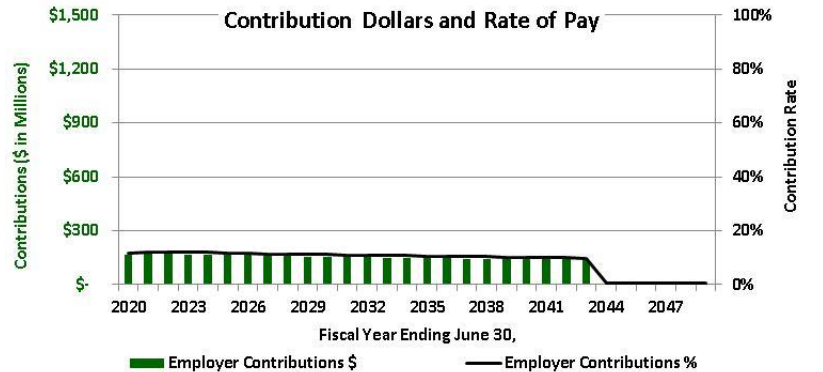
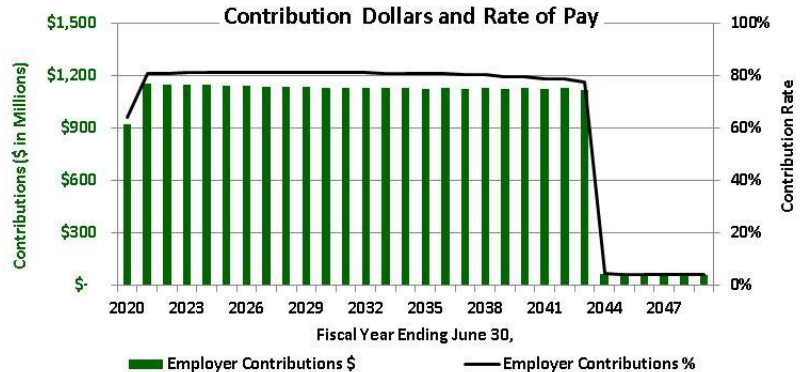
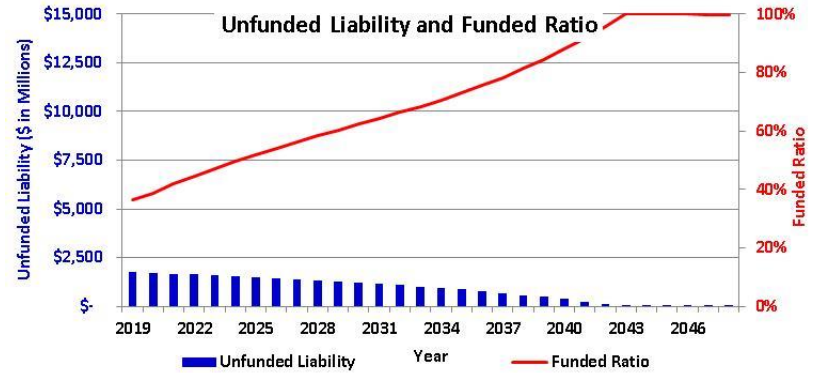
# Projection Information Pension and Insurance

# KERS Non-Hazardous

## Pension



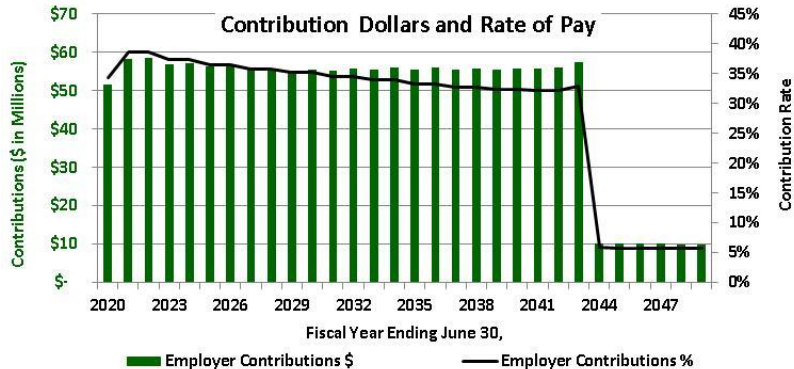
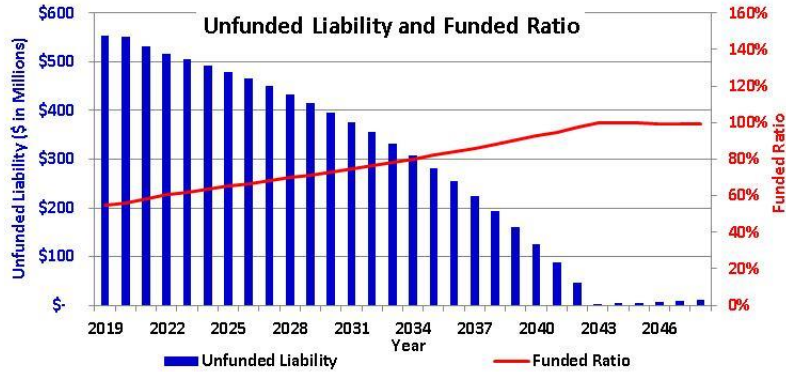
## Insurance



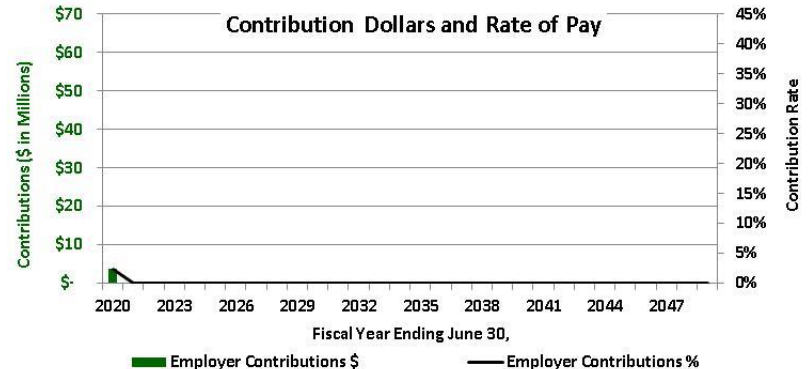
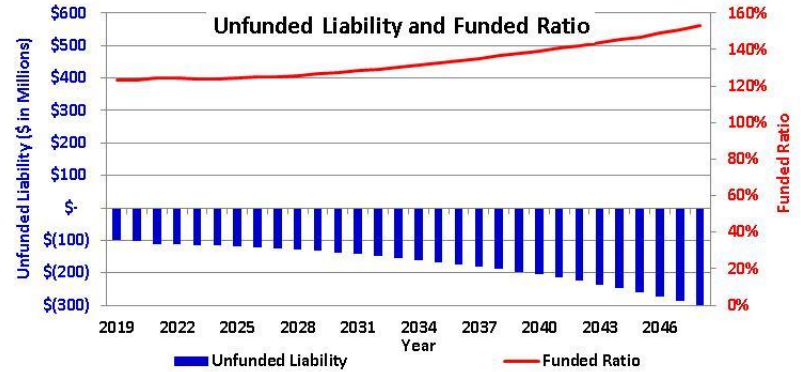


# KERS Hazardous

## Pension

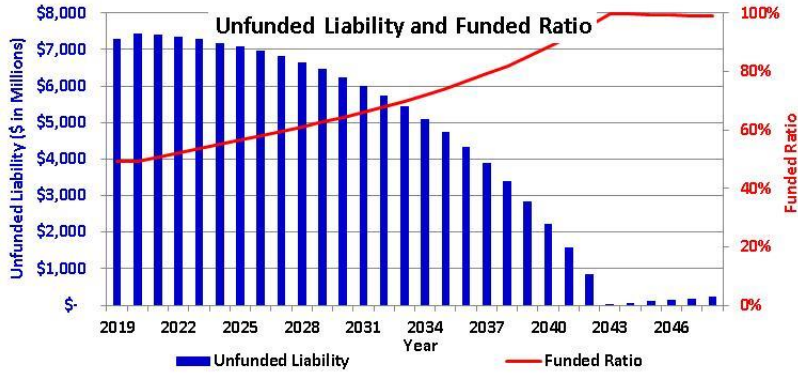


## Insurance

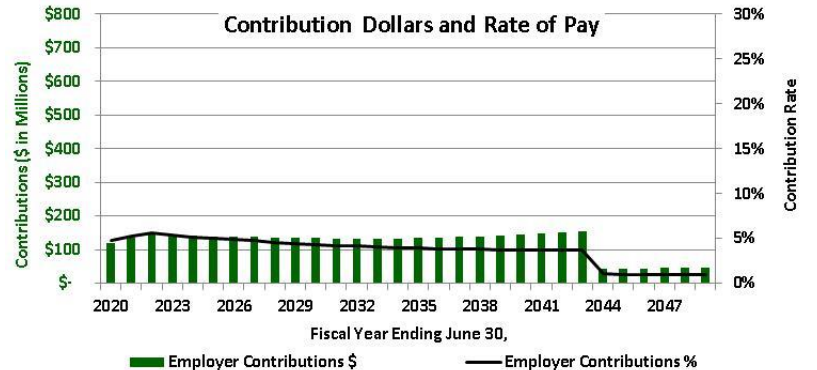
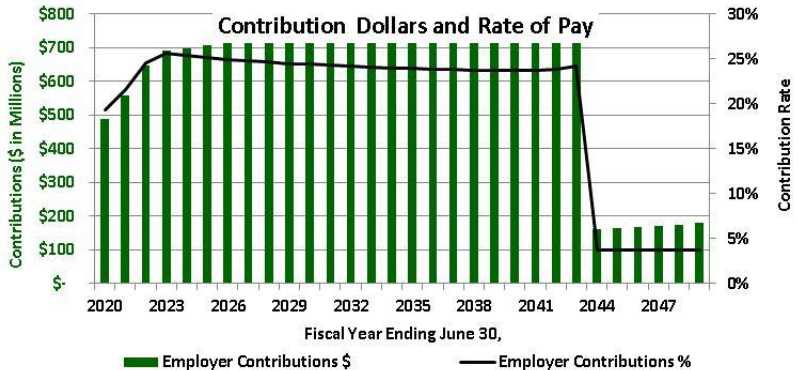
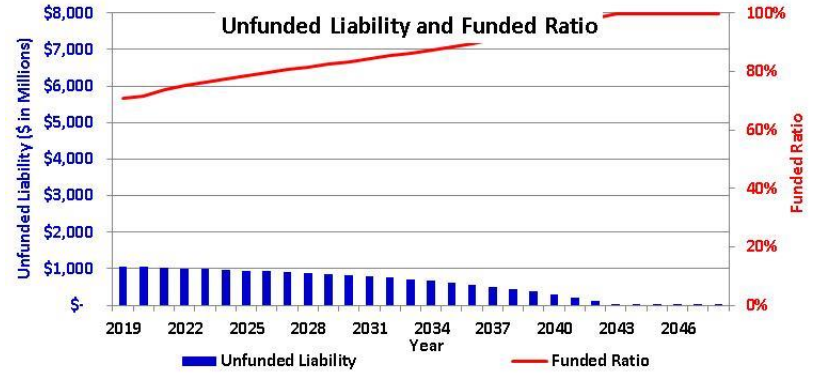


# CERS Non-Hazardous

## Pension

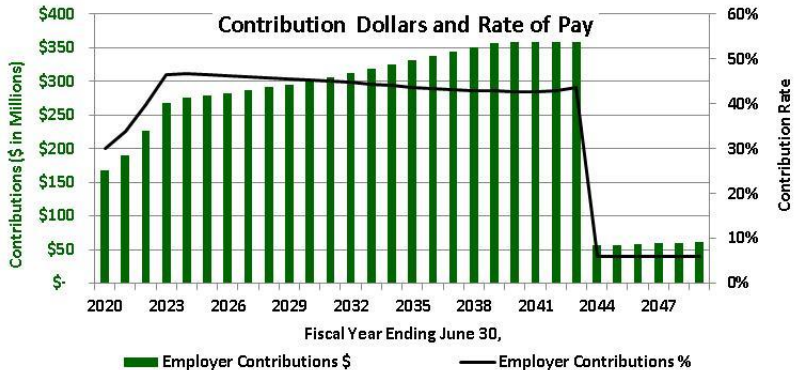
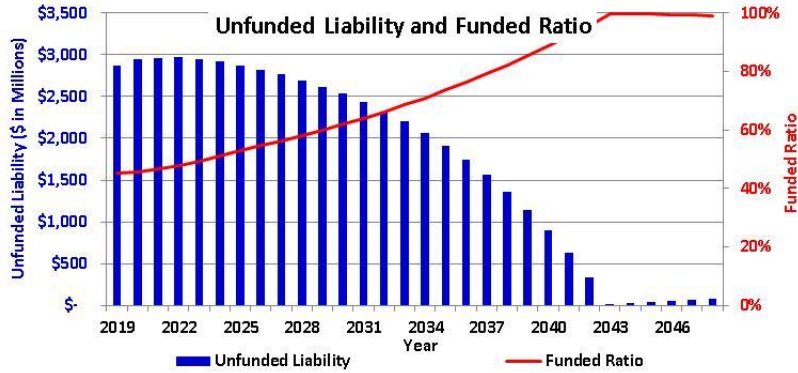


## Insurance

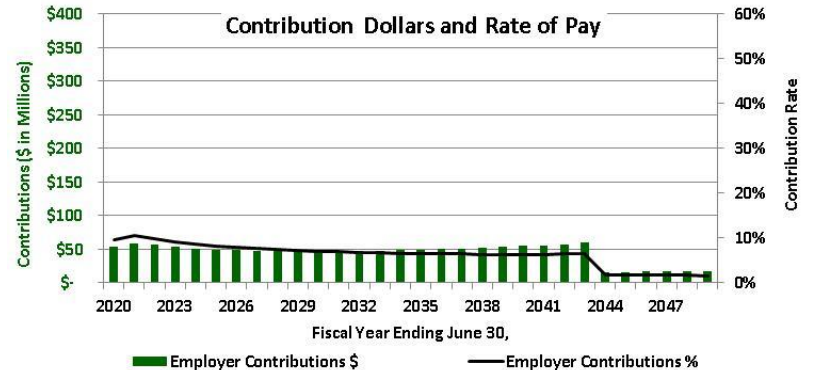
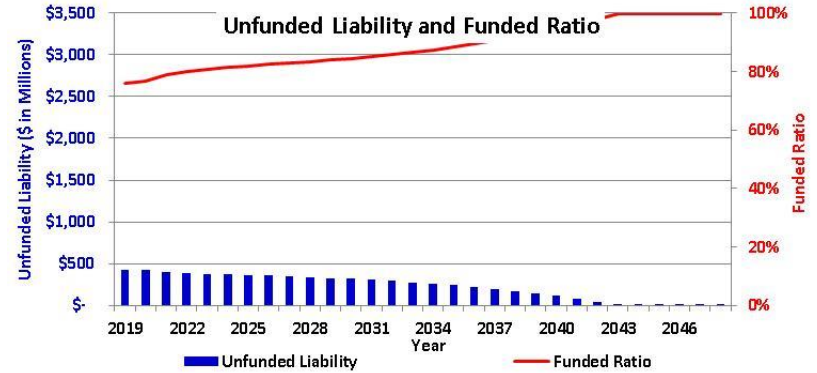


# CERS Hazardous

## Pension

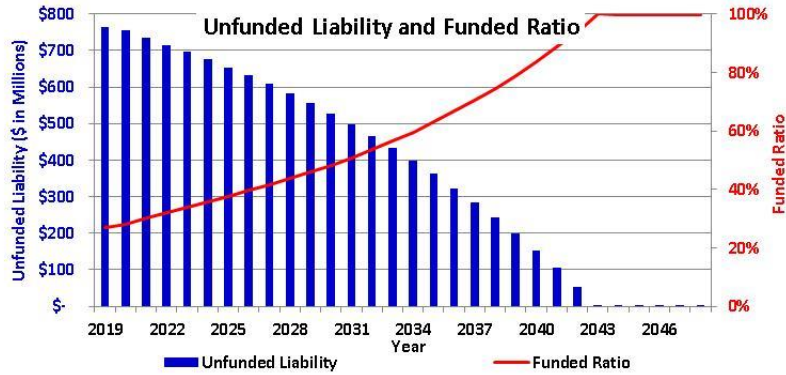


## Insurance

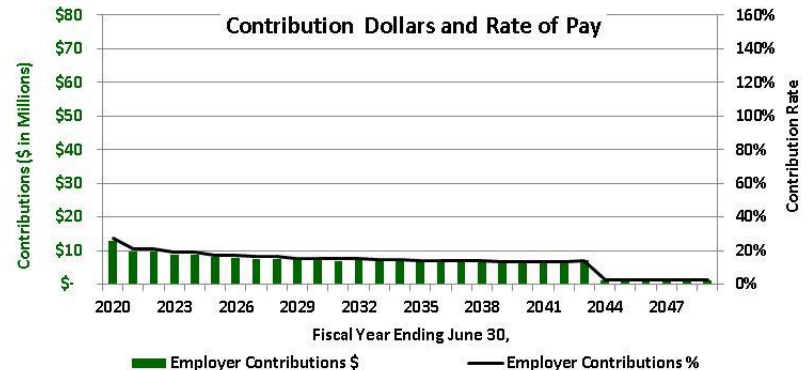
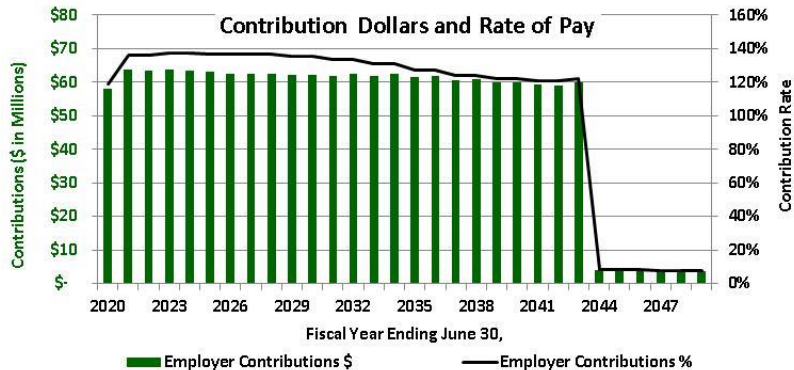
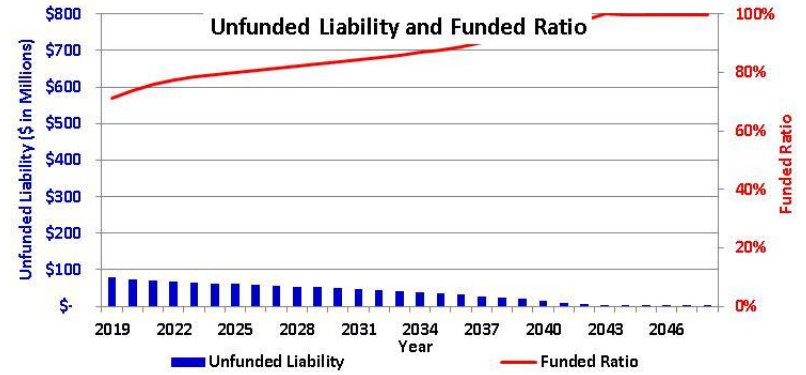


# SPRS

## Pension



## Insurance



# Closing Comments on 2019 Valuation Results

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- It is imperative the State and participating employers in the Systems contribute the actuarial determined contribution in each future year to improve the System's financial security
- We recommend KRS work with the General Assembly for an alternative method to collect the amortization cost from participating employers that is not payroll based
  - Needed most for the KERS Non-Hazardous System
  - Legislative action will be required

# Disclaimers

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- This presentation is intended to be used in conjunction with the actuarial valuations as of June 30, 2019. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- Readers are cautioned to examine original source materials and to consult with subject matter experts before making decisions related to the subject matter of this presentation.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.

# KRS Legislative Recommendations

## Fixed Allocation Funding to replace the % of Payroll Funding

- Each employer is assigned their actual unfunded liability as a % of the total (e.g. \$143 mil of \$14.3 bil = 1%)
- Allocation (unfunded liability contribution) won't change with changes in payroll
  - Employers don't benefit from outsourcing
  - Employers not penalized for new hirings