Kentucky Retirement Systems

PPOB PRESENTATION
PENSION FUNDING

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May 20, 2019

Agenda

- Components of the Pension Contribution
- Picking a Normal Cost Method
- Allocating the Unfunded Liability
- Choosing the Amortization Method Used to Fund the Unfunded Liability
- Dedicated Funding Practices in Other States

Components of the Pension Contribution

Normal Cost – The contribution required if there was no unfunded liability.

Unfunded Liability Cost – The yearly cost to pay down the unfunded liability.

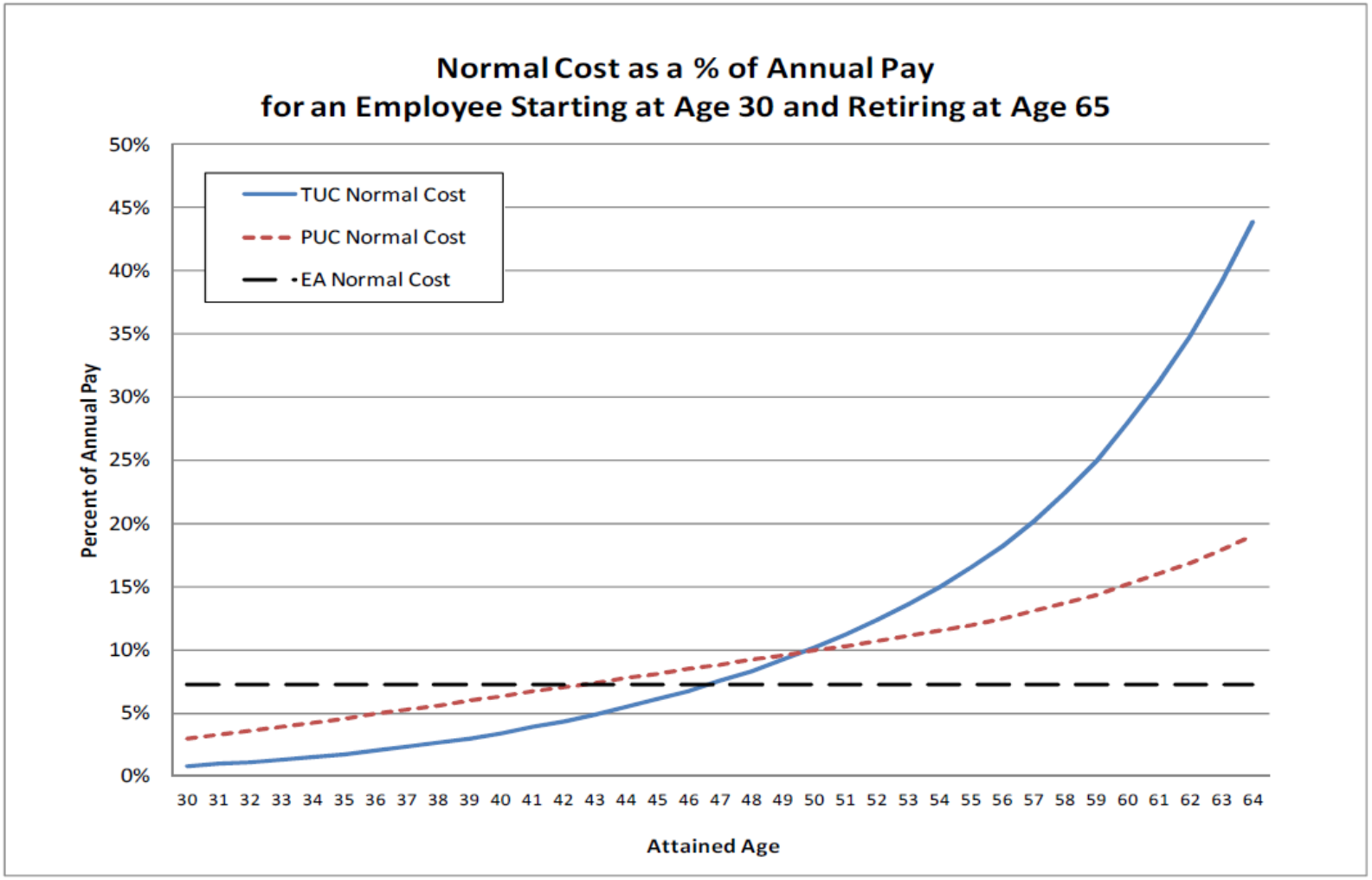
Which Normal Cost Method?

1. **Traditional Unit Credit (TUC)**
    - Covers the cost of the benefits earned this year
    - Rises rapidly over the later part of the career of the employee

2. **Projected Unit Credit (PUC)**
    - Covers the cost of the benefits earned this year
    - Projects the benefits using projected salary
    - Rises less rapidly than TUC

3. **Entry Age Normal (EAN)**
    - Calculates final benefit based on projected service and salary at retirement
    - Allocates the cost evenly as a fixed percent of pay over the employees careers

EAN is used by KRS and about 75% of public funds



Source: GRS Research Report 2012

Components of the Pension Contribution
KERS Non-HAZ 6/30/18 Valuation

Normal Cost	
Pension	**7.98%**
Insurance	**2.48%**
Total	**10.46%**
Unfunded Liability	
Pension	**66.56%**
Insurance	**8.17%**
Total	**74.73%**
TOTAL	**85.19%**

Components of the Pension Contribution KERS Non-HAZ 6/30/18 Valuation

Normal Cost

	Pension	Insurance	Total
Tier 1 (Before 07/03)	**9.28%**	**4.26%**	**13.54%**
Tier 1 (After 07/03)	**9.22%**	**2.35%**	**11.57%**
Tier 2	**6.16%**	**0.59%**	**6.75%**
Tier 3	**2.50%**	**0.55%**	**3.05%**

How to Allocate the Unfunded Liability

By Payroll… Determine each employer's share of the total payroll and allocate accordingly (e.g. 1.125% of the payroll = 1.125% of the unfunded liability).

PROS:

- Simple
- Current practice

CONS:

- Does not reflect each employers real liability
- Favors employers who have reduced their payroll and/or have a lot of retirees
- Penalizes faster growing employers and/or have fewer retirees

How to Allocate the Unfunded Liability

By Each Employer's Portion of the Liability… Determine each employer's share of the total liabilities and allocate accordingly (e.g. 1.025% of the liability = 1.025% of the unfunded liability).

PROS:

- More equitable overall
- Doesn't reward employers who reduced their payroll
- Doesn't change the long-term cost except through future experience

CONS:

- There will be winners and losers compared to current payments… Sometimes significant differences
- Less transparent that the % of payroll method

How to Amortize the Unfunded Liability?

1. Open or closed period?

   - Open = Always has the same amortization period
     Never gets paid off as in a “perpetual mortgage”

   - Closed = Reduces each year like a traditional mortgage

2. If closed, how long of a period?

   - Frequently States have 25 to 30 years

3. Different amortization basis for different components of the liability (e.g. benefit changes)?

4. Level dollar amount or percent of pay funding?

   - In addition to the normal cost

Percent of Payroll Funding

Current Practice

Works when the work force is growing and the unfunded liability is modest.

More younger people enter the plan than older people retire

- Cost of annual funding is less for younger workers
  - Lower compensation
- More likely to terminate before retirement
- Growing payroll = growing contributions

Doesn't work when the payroll is declining and/or the workforce is being reduced

- Results in higher contribution requirements (% of payroll)
- Leads employers to use a variety of methods to avoid paying their annual cost
  - Outsourcing
  - Not replacing departing workers
  - Not reporting workers to KRS

The Pension Contribution Death Spiral

- Cost as a percent of pay is high (e.g. $\frac{Pension\ Cost=\$83}{Payroll=\$100}$ = 83%)
- Employers cut their workforce
- Reduces the normal cost component
- Cost as a percent of pay goes up (e.g. $\frac{Pension\ Cost=\$80}{Payroll=\$80}$ = 100%)
- Total unfunded amount remains the same
- Employers further cut their workforce
- Cost continues to go up (e.g. $\frac{Pension\ Cost=\$77}{Payroll=\$60}$ = 128%)
- And so on including discontinuing the contributions, going bankrupt or going out of business *(e.g. Seven Counties, Kentucky River Community Care, Little Sandy District Health Department, Carter County Health Department and Gateway District Health Department)*

Examples of Workforce Reductions

KERS Non-HAZ State Agencies	Employees FY 2009	Employees FY 2018	Change
County Attorneys	389	351	(9.8%)
Master Commissioners	73	68	(6.8%)
P1 State Agencies	33,820	31,849	(5.7%)
Total	34,282	32,268	(5.9%)

KERS Non-HAZ Quasi Agencies	Employees FY 2009	Employees FY 2018	Change
Health Departments	4,390	2,753	(37.3%)
Non P1 State Agencies	1,721	1,075	(37.5%)
Other Retirement Systems	44	29	(34.1%)
Regional Mental Health Units	8,399	2,907	(65.4%)
Universities	4,875	3,969	(18.6%)
Total	19,429	10,733	(44.8%)

Grand Total	53,711	43,001	(19.9%)

Fixed Dollar Example

1. Determine each employer's actual liability based on their current and former employees' benefits (e.g. $50 Mil)

2. Calculate each employer's share of the system's aggregate liability
   - $\frac{Employer's\ Liability}{System's\ Liability} = \frac{\$50\ Mil}{\$15{,}675\ Mil} = .032\%$

3. Calculate the total required annual unfunded liability contribution (e.g. $1,099 Mil)

4. Determine this employer's annual unfunded liability payment (e.g. 0.32% x $1,099 Mil = $3.517 Mil

Illustration of the current payroll based contribution and the proposes fixed allocation based contribution

Year 1 – Initial Year

Payroll Based Contribution

Employer	Covered Payroll	Contribution Rate as % of Payroll			Dollars Contributed		
		Normal Cost	Amortization	Total	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State	$ 1,120	10.5%	74.7%	85.2%	$ 117	$ 837	$ 954
Health	99	10.5%	74.7%	85.2%	10	74	84
Non-P1	41	10.5%	74.7%	85.2%	4	30	34
RMH	96	10.5%	74.7%	85.2%	10	72	82
Universities	116	10.5%	74.7%	85.2%	12	86	98
Total	$ 1,472				$ 153	$ 1,099	$ 1,252

Fixed Allocation Based Contribution

Amortization Cost for System: $ 1,099

Employer	Payroll	Normal Cost	Allocated Amort %	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State	$ 1,120	10.5%	80.6%	$ 117	$ 885	$ 1,002
Health	99	10.5%	6.6%	10	73	83
Non-P1	41	10.5%	1.3%	4	14	18
RMH	96	10.5%	5.9%	10	65	75
Universities	116	10.5%	5.6%	12	62	74
Total	$ 1,472		100.0%	$ 153	$ 1,099	$ 1,252

Same

GRS Retirement Consulting

For Illustration Purposes Only

Illustration of the current payroll based contribution and the proposes fixed allocation based contribution

Year 2 - Scenario 1 No Change in Covered Payroll

Payroll Based Contribution

Employer	Covered Payroll	Contribution Rate as % of Payroll			Dollars Contributed		
		Normal Cost	Amortization	Total	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State	$ 1,120	9.9%	74.7%	84.6%	$ 111	$ 837	$ 948
Health	99	9.9%	74.7%	84.6%	10	74	84
Non-P1	41	9.9%	74.7%	84.6%	4	30	34
RMH	96	9.9%	74.7%	84.6%	10	72	82
Universities	116	9.9%	74.7%	84.6%	11	86	97
Total	$ 1,472				$ 146	$ 1,099	$ 1,245

No change in the amortization rate

Fixed Allocation Based Contribution

Amortization Cost for System: $ 1,099

Employer	Payroll	Normal Cost	Allocated Amort %	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State	$ 1,120	9.9%	80.6%	$ 111	$ 885	$ 996
Health	99	9.9%	6.6%	10	$ 73	83
Non-P1	41	9.9%	1.3%	4	$ 14	18
RMH	96	9.9%	5.9%	10	$ 65	75
Universities	116	9.9%	5.6%	11	$ 62	73
Total	$ 1,472		100.0%	$ 146	$ 1,099	$ 1,245

Same

No change in the allocation % of the amortization cost

GRS Retirement Consulting

For illustration purposes only. Scenario assumes no change in covered payroll.

Illustration of the current payroll based contribution and the proposes fixed allocation based contribution

Year 2 - Scenario 2 a 1% Percent Decrease in Covered Payroll

Payroll Based Contribution

Employer	Covered Payroll	Contribution Rate as % of Payroll			Dollars Contributed		
		Normal Cost	Amortization	Total	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State	$ 1,120	9.9%	75.4%	85.3%	$ 111	$ 844	$ 955
Health	95	9.9%	75.4%	85.3%	9	72	81
Non-P1	39	9.9%	75.4%	85.3%	4	29	33
RMH	92	9.9%	75.4%	85.3%	9	70	79
Universities	111	9.9%	75.4%	85.3%	11	84	95
Total	$ 1,457				$ 144	$ 1,099	$ 1,243

Amortization rate increased by 0.7%

Fixed Allocation Based Contribution

Amortization Cost for System: $ 1,099

Employer	Payroll	Normal Cost	Allocated Amort %	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State	$ 1,120	9.9%	80.6%	$ 111	$ 885	$ 996
Health	95	9.9%	6.6%	9	73	82
Non-P1	39	9.9%	1.3%	4	14	18
RMH	92	9.9%	5.9%	9	65	74
Universities	111	9.9%	5.6%	11	62	73
Total	$ 1,457		100.0%	$ 144	$ 1,099	$ 1,243

Same

No change in the allocation % of the amortization cost

GRS Retirement Consulting

For illustration purposes only. Scenario assumes the payroll for non State employers decreases by 4.0% from the prior year.

Illustration of the current payroll based contribution and the proposes fixed allocation based contribution

Year 2 - Scenario 3 a 1% Percent Decrease in Covered Payroll with a $100 Million Actuarial Loss

Payroll Based Contribution

Employer	Covered Payroll	Contribution Rate as % of Payroll			Dollars Contributed		
		Normal Cost	Amortization	Total	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State	$ 1,120	9.9%	75.9%	85.8%	$ 111	$ 850	$ 961
Health	95	9.9%	75.9%	85.8%	9	72	81
Non-P1	39	9.9%	75.9%	85.8%	4	30	34
RMH	92	9.9%	75.9%	85.8%	9	70	79
Universities	111	9.9%	75.9%	85.8%	11	84	95
Total	$ 1,457				$ 144	$ 1,106	$ 1,250

Amortization rate increased by 1.2%

Fixed Allocation Based Contribution

			Amortization Cost for System: $ 1,106			
Employer	Payroll	Normal Cost	Allocated Amort %	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State	$ 1,120	9.9%	80.6%	$ 111	$ 892	$ 1,003
Health	95	9.9%	6.6%	9	73	82
Non-P1	39	9.9%	1.3%	4	14	18
RMH	92	9.9%	5.9%	9	65	74
Universities	111	9.9%	5.6%	11	62	73
Total	$ 1,457		100.0%	$ 144	$ 1,106	$ 1,250

Same

No change in the allocation % of the amortization cost

GRS Retirement Consulting

For illustration purposes only. Scenario assumes the payroll for the non State employers decreases by 4.0% from the prior year. A $100 million loss is less than 1% of the total

Illustration of the current payroll based contribution and the proposes fixed allocation based contribution

Year 2 - Scenario 4 a 1% Percent Decrease in Covered Payroll with a $100 Million Actuarial Gain

Payroll Based Contribution

Employer	Covered Payroll	Contribution Rate as % of Payroll			Dollars Contributed		
		Normal Cost	Amortization	Total	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State	$ 1,120	9.9%	74.9%	84.8%	$ 111	$ 838	$ 949
Health	95	9.9%	74.9%	84.8%	9	71	80
Non-P1	39	9.9%	74.9%	84.8%	4	29	33
RMH	92	9.9%	74.9%	84.8%	9	69	78
Universities	111	9.9%	74.9%	84.8%	11	83	94
Total	$ 1,457				$ 144	$ 1,090	$ 1,234

Amortization rate increased by 0.2%

Fixed Allocation Based Contribution

			Amortization Cost for System: $ 1,090			
Employer	Payroll	Normal Cost	Allocated Amort %	Normal Cost	Amortization	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State	$ 1,120	9.9%	80.6%	$ 111	$ 879	$ 990
Health	95	9.9%	6.6%	9	72	81
Non-P1	39	9.9%	1.3%	4	14	18
RMH	92	9.9%	5.9%	9	64	73
Universities	111	9.9%	5.6%	11	61	72
Total	$ 1,457		100.0%	$ 144	$ 1,090	$ 1,234

Same

No change in the allocation % of the amortization cost

GRS Retirement Consulting

For illustration purposes only. Scenario assumes the payroll for the non State employers decreases by 4.0% from the prior year. A $100 million gain is less than 1% of the total

Fixed Dollar Impact

- Allocation based on actual liability and not payroll
- Some employer's annual cost will go up from current % of payroll rate
  - Have lots of late career employees and retirees
  - Have had a decline in workforce
- Some employer's annual cost will go down from current % of payroll
  - Have fewer late career employees and retirees
  - Have a growing workforce
- Quasi agencies' aggregate contribution (fixed dollar vs % of payroll) is expected to decline by about $48 Mil.
  - $48 Mil shortfall must be absorbed by non-quasi agencies

Dedicated Funding Practices

Arizona	*	Tax on fire insurance policies funds firefighters pension fund.
Jacksonville, FL	*	5% sales tax for pension fund.
Hawaii	*	Constitutional amendment committing state surplus to the pensions.
Kansas	*	Gaming revenues and 80% of proceeds from sale of state surplus real estate directed to KPERS until 80% funded.
Louisiana	*	Mineral and corporate tax revenue go into a trust which can be used to pay down pension liabilities.
Montana	*	A portion of their coal severance tax goes to state pensions.
New Jersey	*	Transferred ownership of the state lottery to the pension system.
North Carolina	*	Several sources go into a solvency reserve which is used to pay pension liabilities.
Oklahoma	*	TRS get 5% of the state sales, use and corporate and individual income taxes
Oregon	*	Taxes on alcohol and marijuana and lottery revenues in excess of estimates are dedicated to pensions.
Pennsylvania	*	Pittsburg dedicates a portion packing revenues.
Rhode Island	*	Annual revenues in excess of the estimated amount are paid to the ERS.