PENSION TRUSTEE ADVISORS

Alaska Public Safety Pension Fix
HB 79

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Presentation to House Finance Committee

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William B. Fornia, FSA
Credentials

- Highest Actuarial Credentials
  - Fellow of the Society of Actuaries (1986)
  - Enrolled Actuary under ERISA (1984)
  - Member of the American Academy of Actuaries (1983)
  - Active in national actuarial organizations (elected to SOA board)
- Author and Frequent Speaker
  - "Still A Better Bang for the Buck" (with National Institute on Retirement Security), 2014
  - "Are California Teachers Better off with a Pension or 401(k)" University of California Berkeley Labor Center and Journal of Retirement, 2016
  - Frequent Testimony to Legislatures and City Councils
  - Regular Expert Witness (Detroit, Stockton, Puerto Rico)

Sample Work History

- Corporate actuary for Boeing 1980-1984
- Alaska related experience
  - ARMB first ongoing review actuary 2005-2006
  - Audited Alaska PERS/TRS actuarial valuations 2009
  - Former leader of Buck Consultants' Denver retirement practice
  - Advisors to labor groups since 2011, including testimony
- Consulting services for 22 statewide retirement systems in Alaska, Colorado, Missouri, North Dakota, Oklahoma, Puerto Rico, Utah, Texas, Wyoming and others.
  - Served as system actuary for most of these (including CO, MO, ND, OK,WY)
  - Ongoing consultant to Ohio Retirement Study Council, including reform
- Expert testimony and consulting for pension systems, governments, and labor groups
- Other clients have included the US Department of State, Cities of Baltimore, New York and Philadelphia, IBM, US WEST and Ford

Alaska Public Safety Pension Fix

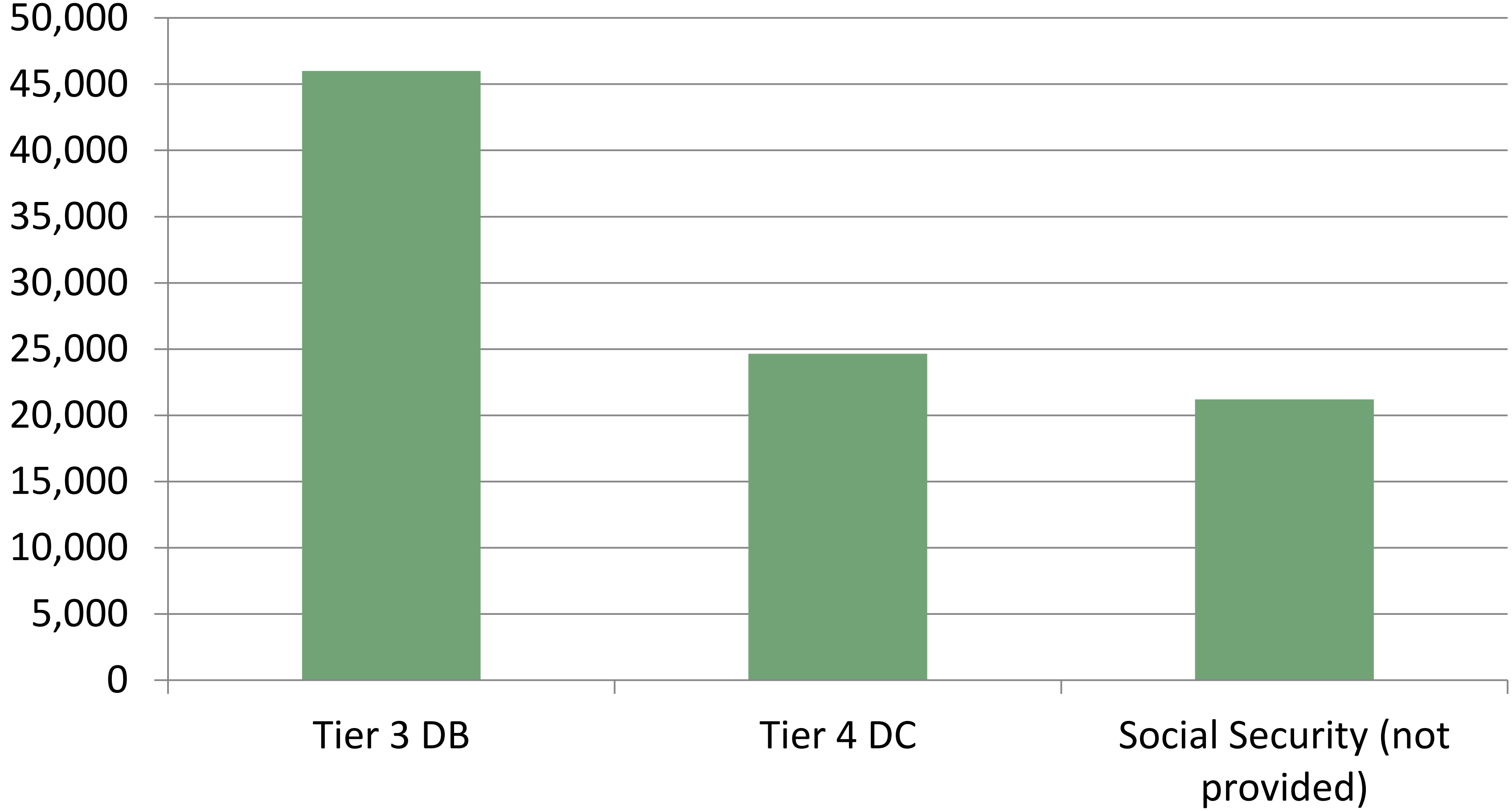
- Why is change necessary?
- Proposed structure of Public Safety Pension Fix (PSF)
- Illustration of Financial Projections

Why is change necessary?

Tier 3 provided adequate benefits; Tier 4 does not

Typical Average Pension Illustration	Police & Fire	Other PERS
Hire Age	31	37
Retirement Age	56	60
Years of Service	25	23
DB Benefit as Percent of Final Average Compensation (based on Tier 3 provisions)	57%	50%
DCR Benefit as Percent of Final Average Compensation (calculated based on reduced return and uncertain longevity)	31%	30%
Reduction of Benefit % due to DCR program	26%	20%

Illustration of hypothetical police/fire benefits: $80,000 Final Average Salary



Key Considerations with PSF

- DB Plans are more cost effective at providing retirement benefits
  - DB pension plans pool “longevity risks”
  - DB pension plans can maintain a better diversified portfolio because, unlike individuals, they do not age
  - DB pension plans achieve better investment returns because of professional asset management and lower fees

- DC Plans are more consistent with individual responsibility
  - Benefit is a clearly defined contribution from the employer and employee to a trust
  - Benefit is more under the control and full ownership of the individual
  - Benefit is much more portable
  - No risk of unfunded liabilities to employer

How does HB 79 strike a compromise?

- Start with 12% fixed employer contribution and manage plan within that target as possible
- Design current target benefit levels
  - Consider benefits provided by DCR and latest DB
- Build in benefit and/or employee contribution adjustment mechanisms
- Utilize lower discount rate to provide cushion against adverse experience

Plan Comparison

	Tier 3 Public Safety	Tier 4	Public safety fix
Employee contributions	7.5%	8.0%	Range of 8-10% set by ARM board (Sec. 13-14)
Employer contribution	22%	22%	22% with no less than 12% to PSF (Sec. 17)
Vesting	5	5	5 (applicable via Sec. 11)
Retirement age	Any age with 20 years	None	55 with 20 years or 60 without (Sec. 19-20)
Benefit Multiplier	2% x first 10 years, 2.5% thereafter	None – based on market returns	2% x first 10 years, 2.5% thereafter (applicable via Sec. 11)
Final Average Pay	Highest 3 years	NA	Highest 5 years (Sec. 29)
COLA	$50 or 10% whichever is higher	None	None

Plan Comparison *(cont'd)*

	Tier 3 public safety	Tier 4	Public safety fix
Post-Retirement Pension Adjustment (PRPA)	Automatic for disabled, over 60 and 5 years retired	none	Same as Tier 3 but can be withheld if plan funding is below 90% ARM board makes determination (Sec. 22-24)
Medical coverage	Provided after 25 years at any age or age 60 with 10 years	HRA 3% average PERS salary plus Medicare supplement	Same as Tier 4 Public safety (Sec. 25-28)
Disability	• Non-occupational calculated as normal retirement • Occupational is 40% of gross monthly compensation	• Non-Occupational is only service credit • Occupational is 40% of salary. Must be total and permanent disability.	Same as Tier 3 Public safety (made applicable via Sec. 11)

Changes from old DB system

- Removal of full medical coverage
- Funding level built on more conservative 7% rate of return vs current 7.38% ARM board uses
- Employee contribution can adjust upward from 8% to 10%
- COLA benefit is eliminated
- PPRA is not automatic and can be withheld if funding level is below 90%
- Minimum age of 55 year old
- Final average salary is based on high 5 year instead of high 3 years

Current Tier 4 members transferring into plan

- ARM board will create an actuarially equivalent formula for purchasing time.
- Individual will have 90 days from implementation to decide on joining plan
- Individual can use their Tier 4 DC account to purchase service credit or start from 0.
- Tier 4 balance may not be enough to cover actual time employed
- Example individual with 6 years and $100,000 balance in Tier 4. ARM board determines the cost of purchasing 6 years is $120,000. Individual could elect to just purchase 5 years or pay the difference between the two amounts and purchase the 6 years.

Benefit Comparison

Tier 3 Public Safety	Public Safety Fix
Hypothetical final 3 years of salary: $95,481 $98,345 $101,295	Hypothetical final 5 years of salary: $90,000 $92,700 $95,481 $98,345 $101,295
Final average salary Final 3 high=$98,374	Final average salary- final 5 high=$95,564
25 years at any age 57.5%x98,374=$56,565/12=$4,714 monthly	25 years at age 55 57.5%x $95,564=$54,949/12=4,579 monthly
10% COLA at age 65= $5,656/12=$471	No COLA
Automatic PRPA based on CPI	Same Formula and criteria, but PRPA is withheld whenever fund falls below 90% funded.
Health Care: Retiree and Spouse is $1,647 x12= 19,764 Retiree and family is 1,987x12=23,844	HRA = 3% contribution and market return over career. Defined contribution benefit. Health care only after Medicare eligibility

Benefit Comparison *(cont'd)*

Tier 3 Public safety	Public Safety fix
Final benefit retiree and spouse = $56,565 pension + $5,656 COLA +$19,764 medical = $81,985	Final Benefit retiree and spouse = $54,949 pension + fixed HRA amount
Final Benefit Retiree and family = $56,565 pension + $5,656 COLA +$23,844 medical = $86,065	Same as above

Safeguard #1:
Reduce benefits vis-à-vis Tier 3

- Minimum Age 55 eligibility
- Five year average salary
- Eliminate Alaska 10% COLA
- Suspend Post-Retirement Pension Adjustment when not well funded
- Increase employee and employer contributions up to 2% each if not well funded

Preliminary Cost Estimates

Plan Provision	Based on 8% return	Based on 7% return & 0.62% drop in inflation	Based on 6% return & 1.5% drop in inflation
Baseline Tier 3 Public Safety Plan	17.3%	18.4%	20.1%
Minimum Age 55 Retirement Eligibility	-1.2%	-1.3%	-1.4%
Average Earnings Period to Five Years	-0.7%	-0.7%	-0.6%
Eliminate COLA	-0.6%	-0.7%	-0.7%
Withhold PRPA if Underfunded	Up to 2.2%	Up to 2.0%	Up to 1.5%
Increase Employee/Employer Contributions	Up to 4.0%	Up to 4.0%	Up to 4.0%
Public Safety Fix Pension Cost	14.8%	15.7%	17.4%
Contributions (net of health)	16.9%	16.9%	16.9%
Contribution Margin	2.1%	1.2%	-0.5%
Additional Margin for Adverse Experience	6.2%	6.0%	5.5%

Safeguard #2: Actuarial Methods

- Build in margin in actuarial assumptions
- Build reserves in good times to provide added funding during bad times
- Compare 12% + 8% = 20% contributions with costs above
  - 15.9% for pension based on 7% returns
  - HRA & Medicare Supplement are another 3.1%
  - This provides cushion of 1.0%
  - Additional 6.0% available through PRPA suspension and additional 2%+2% employee and employer contributions

Safeguard #3: Reduced Discount Rate

- Target the pension and health care benefits to be equal to latest tier DB
- Determine the costs based on 7% discount rate rather than 8% or 7.38% assumed by PERS actuary
- Seek additional funding for this level, and then commit to this fixed employer contribution rate going forward
  - This is 12% employer contribution for Police and Fire employers
  - This is 8% to 10% employer contribution for employees
- Monitor experience and adjust benefits and/or contributions as necessary going forward

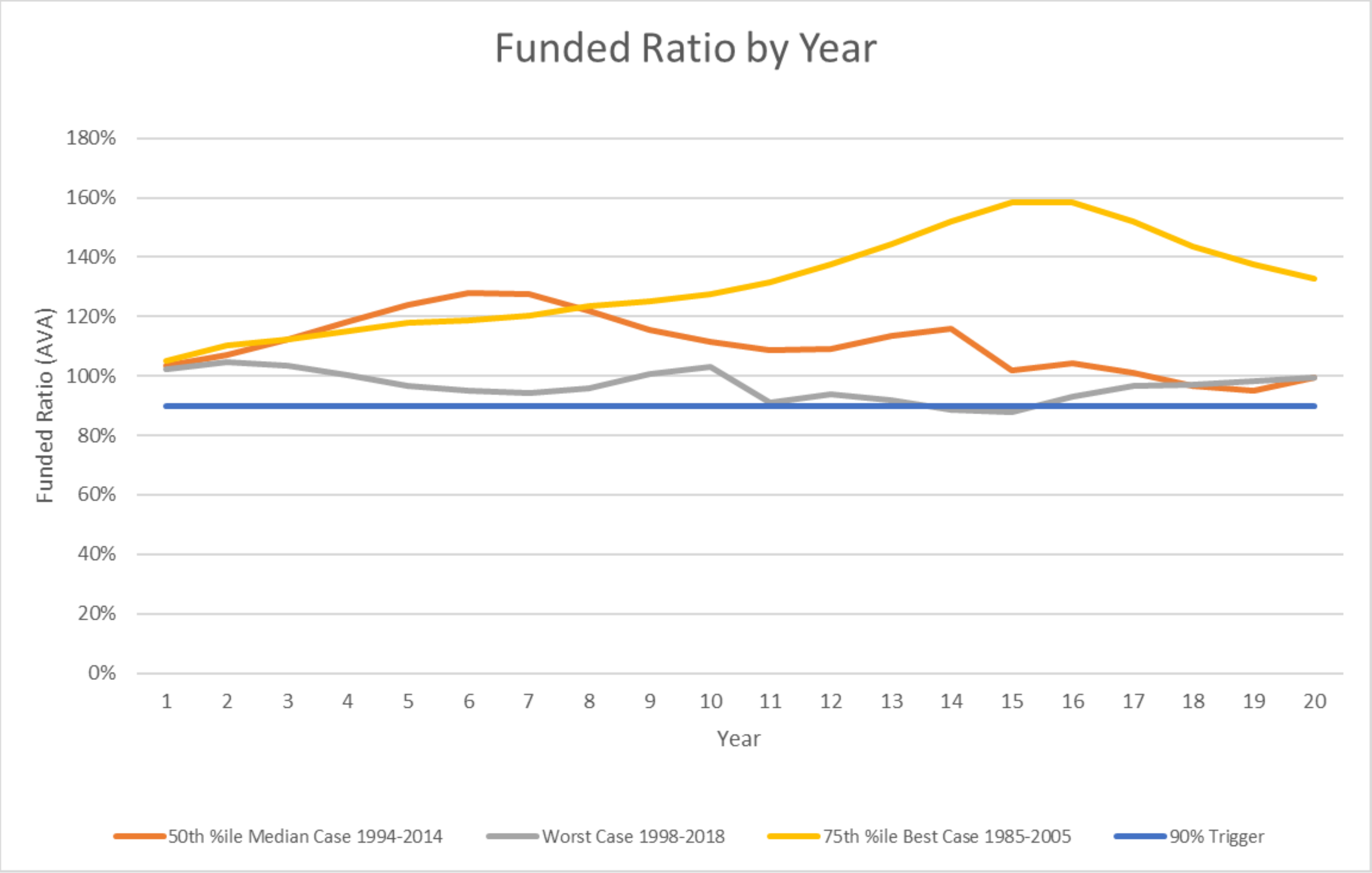
Benefit Plan Simulations - Baseline

- We modelled how plan might have worked under various returns
- If fund earns 6.6% for next ten years, as ARMB investment consultant estimates, then 7.38% (consistent with long-term PERS actuarial consultants) thereafter
  - Plan will grow to 107% funded by 20 years
  - Never below 100% funded
  - Funded ratios based on conservative 7.00%
    - Current actuary uses 7.38%

Benefit Plan Simulations - Historical

- We modelled how plan might have worked under various returns consistent with PERS returns
- Considering each 20 year period from 1980-2000 to 1998-2008
  - Median case was if 1994-2004 was replicated
    - Never falls below 90%
  - Worst case was if 1998-2008 was replicated
    - Falls below 90% for 2 of those 20 years, by end would be 99% funded
  - 75%ile best case was if 1985-2005 replicate
    - Would be 133% funded after 20 years

Benefit Plan Simulations - Historical



Benefit Plan Simulations- Stochastic

- In the real world, returns will not be stable from year to year.
- ARMB investment advisors estimate a “standard deviation” of 14.71% for the investment return of the current asset mix
  - This roughly means that in one of every three years, return would be more than 14.71% above or below 7.38%.
    - Above 22% in one-sixth of the years and below minus 7.3% in one-sixth of the years
  - Although this standard deviation is higher than we normally see, we modelled future returns consistent with ARMB advisors estimates

Benefit Plan Simulations (cont.)

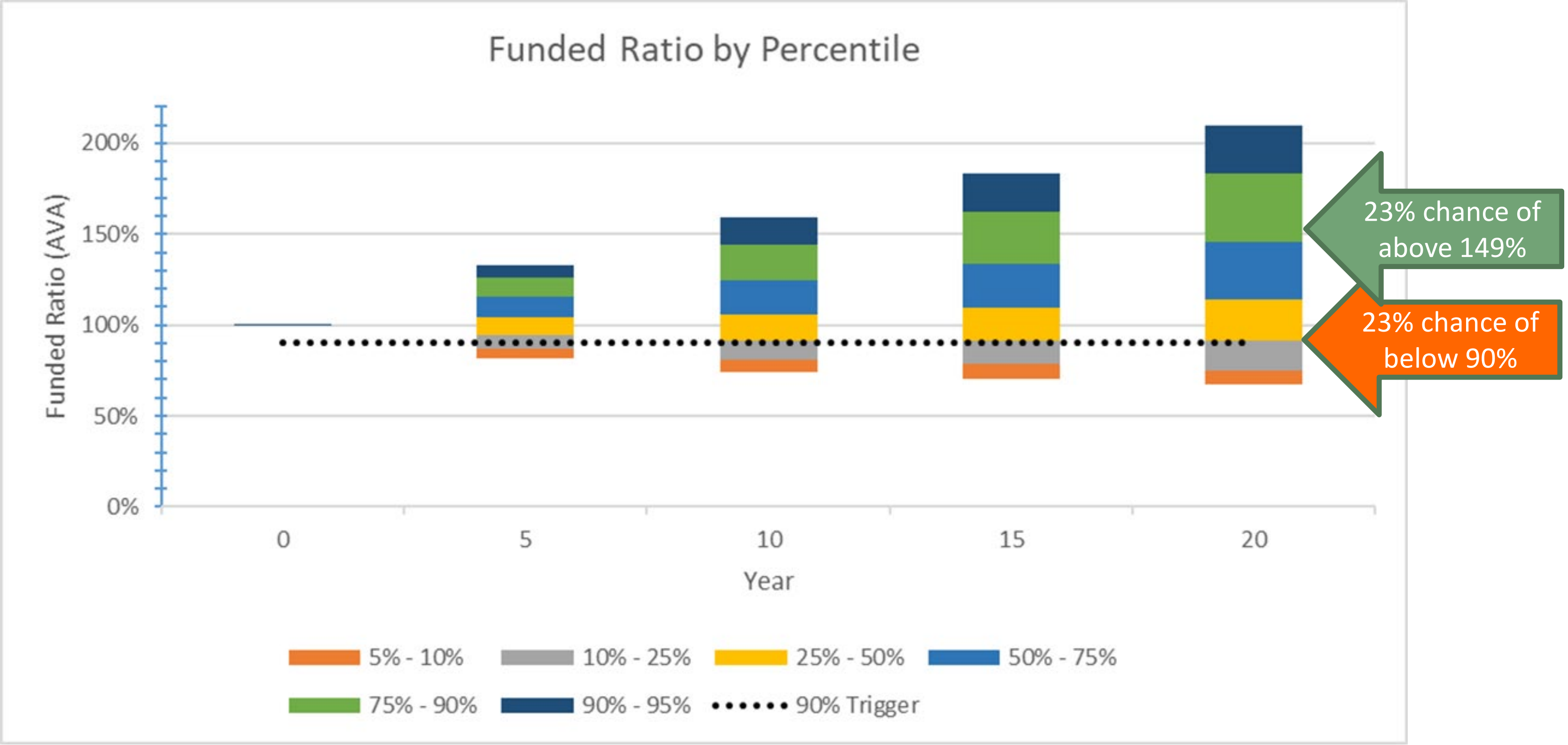
- We modelled 10,000 random simulations based on ARMB investment advisors return assumptions of 6.6% for next ten years, followed by ARMB actuaries assumptions of 7.38% beyond that
- In simulations where the funded ratio fell below 90% threshold, we activated the triggers
  - Boost contributions by 1% (up to 4%)
  - Suspend the Post Retirement Pension Adjustment

Benefit Plan Simulations (cont.)

- High likelihood (68%) that funded ratio will be more than 100% in most years
- Median funded ratio in 20 years is 114%
- But still about 23% chance that funded ratio will be 90% or below
- Only about 10% chance that funded ratio will be 75% (current PERS level) or below after 20 years

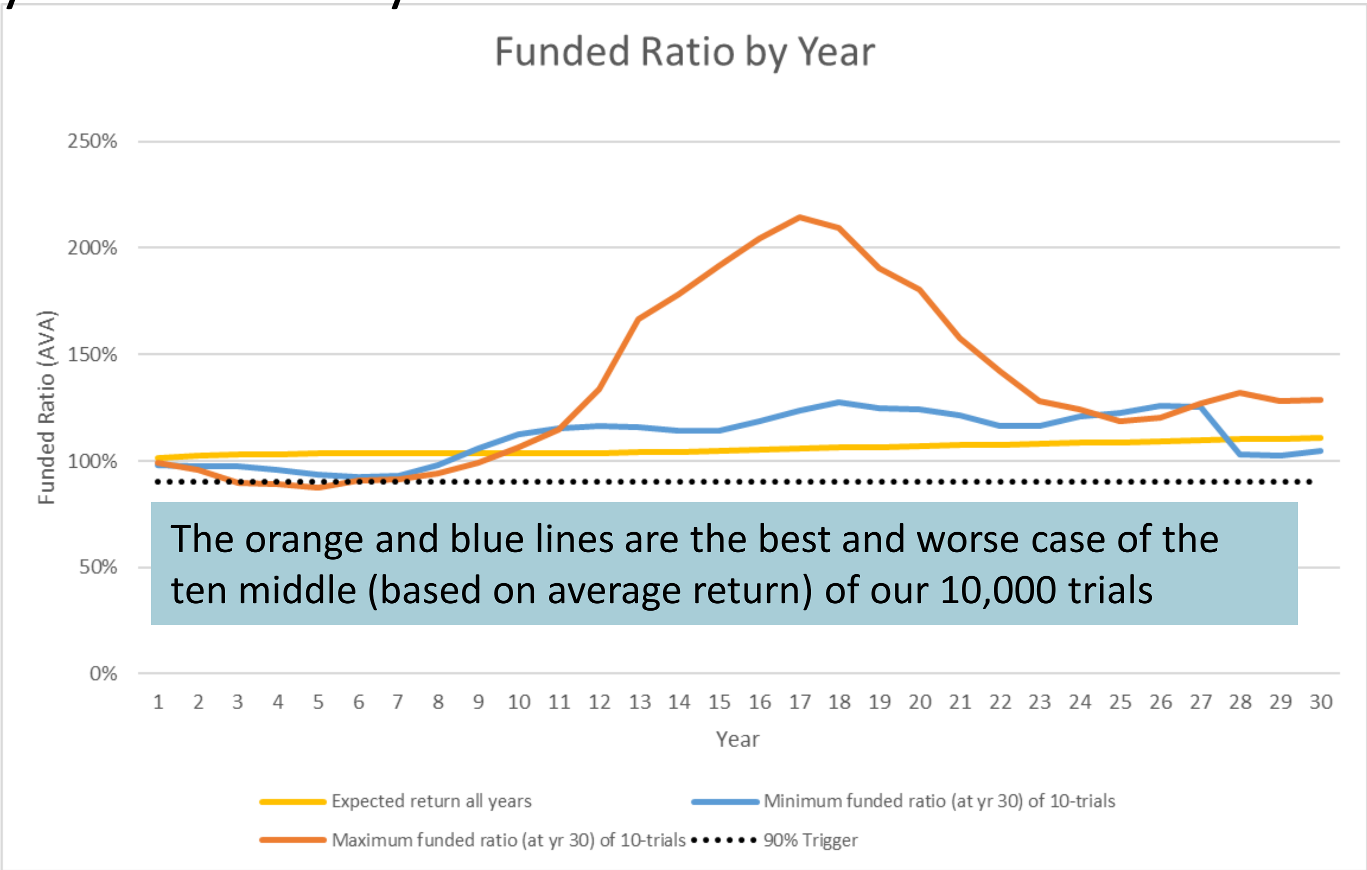
Benefit Plan Simulations (cont.)

- It's as likely that funded ratio will be above 149% than below 90%



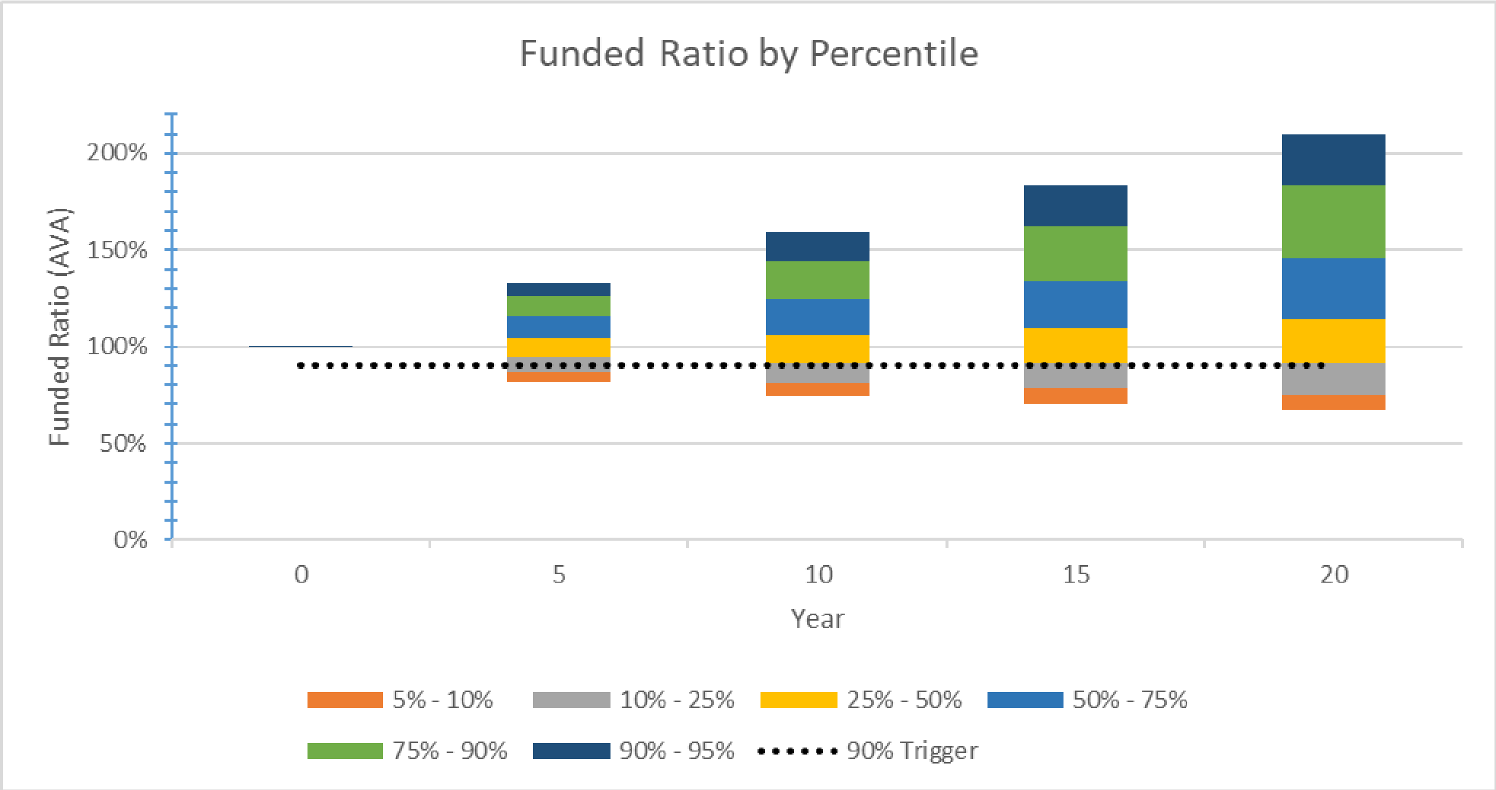
Benefit Plan Simulations (cont.)

- Even if we hit our return expectations in the long run, there's likely to be volatility in short run



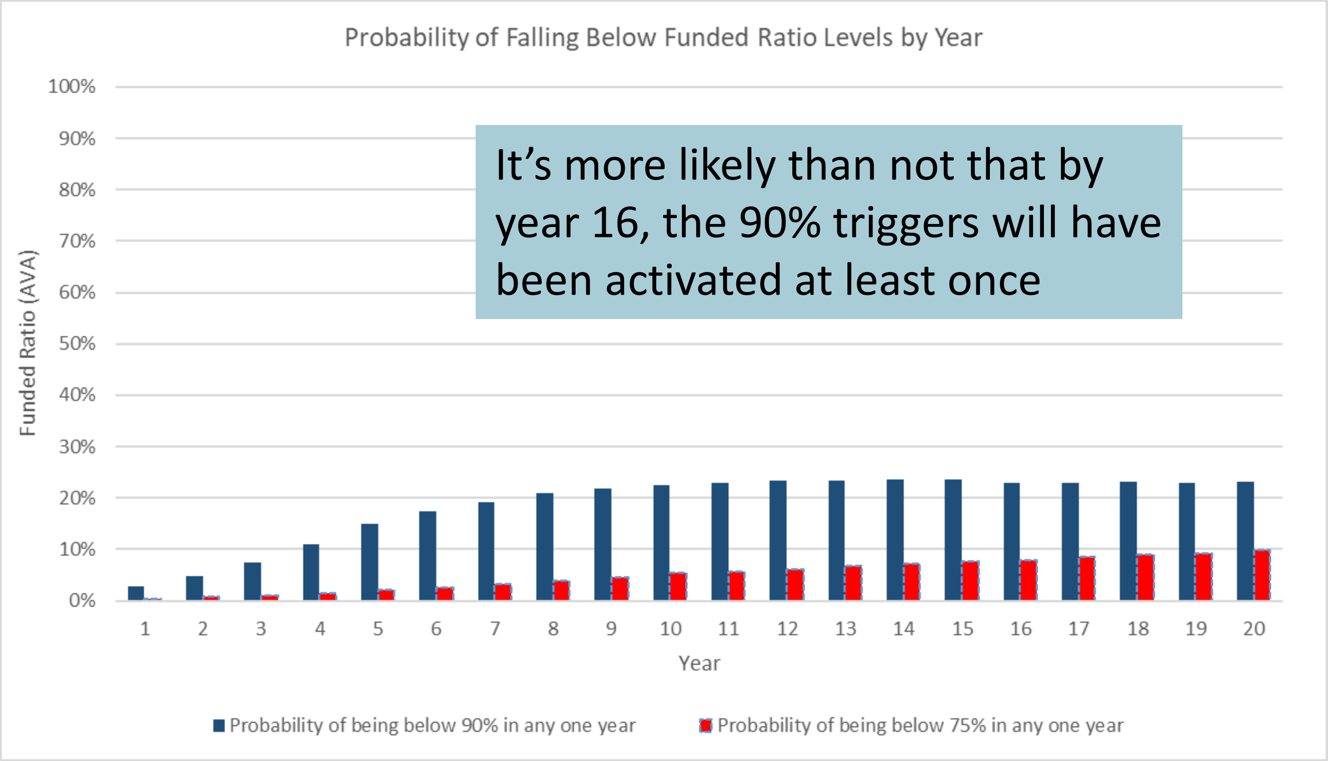
Benefit Plan Simulations (cont.)

- Our safeguards are what provides downside protection



Benefit Plan Simulations (cont.)

- There's about 23% chance that funded ratio would be below 90% in any given year, triggering safeguards
  - But only about 10% chance of below 75% at year 20



Additional Risk Considerations

- Scenarios where plan is continually underfunded are those where returns are below 7%. If this situation were to occur
  - Those participants trying to retire under a Defined Contribution approach would also have extreme difficulty being able to retire
    - Relative value of Lower 48 Defined Benefit plans would increase
  - Legacy PERS and TRS plans would also continue to be underfunded
- Further decrease in actuarial assumed rate of return would reduce funded ratios and could:
  - Require higher contributions to this plan as well as legacy PERS and TRS, or
  - Require further reductions in benefits

Benefit Plan Simulation Conclusions

- Safeguards have been implemented to protect against downside risk
  - Baseline contributions slightly higher than expected cost
  - Conservative assumed rate or return
  - Triggers if funded ratio fall below 90%
    - Increased contributions by up to 2% each employee and employer
    - Suspension of Post Retirement Pension Adjustment
- High likelihood of being extremely well funded
- But still some risk of being under-funded
  - About 23% chance of being below 90% funded in any given year
  - About 10% chance of being below 75% funded in year 20

How have other states operated?

Case Study – Wisconsin

- Cost of Living Adjustment is dependent on fund returns
- At retirement, each member has a fixed benefit
- A variable benefit is added to this, based on fund returns
- The variable benefit itself can go down as well as up, but the fixed benefit does not decrease
- Following 2008, the variable benefit did decrease, but has recovered

Case Study – FPPA

- Colorado Fire and Police Pension Association
  - Formed in 1980, creating new statewide plan
  - Contributions are fixed at 8% employee + 8% employer
  - This level is sufficient for core DB plan
  - Excess contributions went into DC plan during good times
  - Board has discretion over COLA, keeping costs below 16%

Case Study – SDRS

- Historically among best funded state plans
- SDRS is considered a hybrid DB plan with DC features
- History of substantive benefit improvements funded by favorable investment results—included retirees
- Fixed member and employer contributions
- Statutory triggers requiring Board recommendations for corrective actions/no higher employer contributions
- Primary benefit change tied COLA to Funded Ratio and CPI
- Retirees received smaller COLA as a result

Case Study – Ohio

- Employer contributions are fixed for each of five pension systems
- Major pension reform completed in 2012
- Systems were and are required to develop plans to keep funded periods within 30 years
- Systems are now imposing plan reductions in many cases
- Like Alaska, plans include retiree healthcare

Proposed 12% employer contribution is consistent

- Recently modified police and fire plans
  - Utah employer contribution of 12.0%
  - Ohio employer contribution of 14.0% for non-emergency, 19.5% for Police, and 24.0% for Fire
- Major Alaska employers
  - Wells Fargo
    - 6% match on 401(k)
    - Plus 6.2% Social Security for total of **12.2%**
  - Alaska Airlines
    - 7% match on 401(k) plus 1.5% Stock Purchase Plan subsidy
    - Plus 6.2% Social Security for total of **14.7%**

Recap

- Alaska has concern with potential future unfunded liabilities
- DCR provides inadequate benefits
- HB 79 is a potential solution
  - If actuarial experience is as expected, benefits will be paid comparable to Tier 3
  - If actuarial experience is unfavorable, lower benefits will be paid
  - Individuals do not take this risk, the government does not take this risk; pools of individuals do

Questions?

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Appendix

- We recommend that PERS actuary review and refine our estimates

- Estimates based on limited publicly available actuarial information, while PERS actuary has complete information

- Actuarial calculations were made by or under the direction of William Fornia, FSA, a Member of the American Academy of Actuaries, who is qualified to render these actuarial opinions