

# Montana Public Employees' Retirement Board

## Actuarial Valuations as of June 30, 2013

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# Discussion Topics

- Public Pension Environment
- The Actuarial Valuation Process
- Historical Trends (PERS)
- Review of Actuarial Experience
- 2013 Actuarial Valuations, Projections, and Stress Testing



# Public Pension Environment



# Public Pension Environment

- Budget Problems for Governmental Employers (Detroit bankruptcy)
- More Public Scrutiny and Questions Being Raised about Plan Sustainability (Society of Actuaries “Blue Ribbon Panel”)
- Pending Changes in Accounting and Actuarial Standards
- Proposed Federal Legislation (PEPTA and Orrin Hatch legislation)

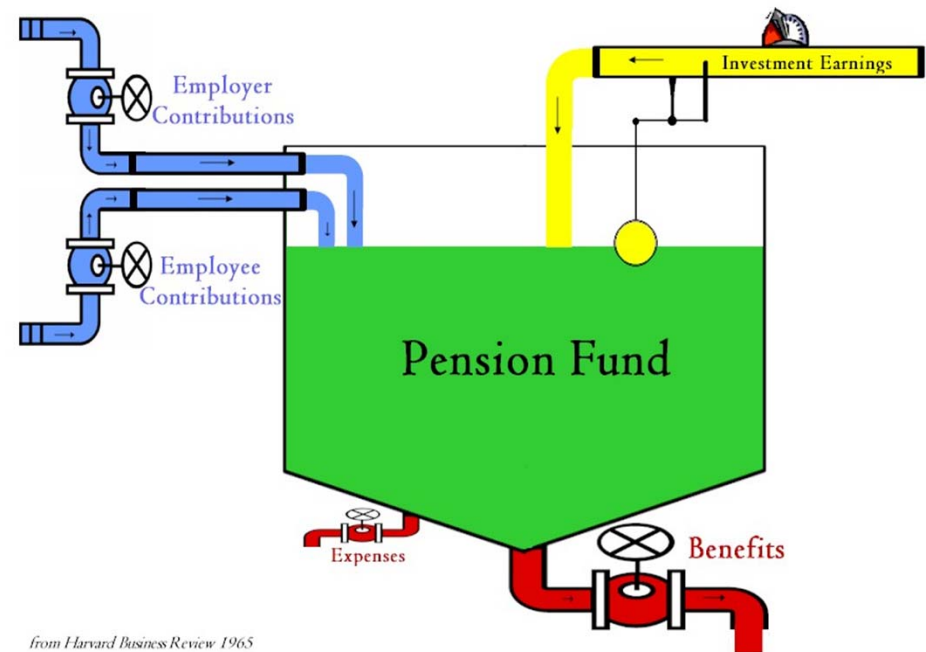


# The Actuarial Valuation Process



# The Actuarial Valuation Process In General

1. Collect data
  - Participants
  - Plan provisions
  - Financial
2. Make assumptions
  - Demographic
  - Economic
3. Project all future benefit payments
4. Determine a present value = tank
5. Compare to assets
6. Calculate employer contribution

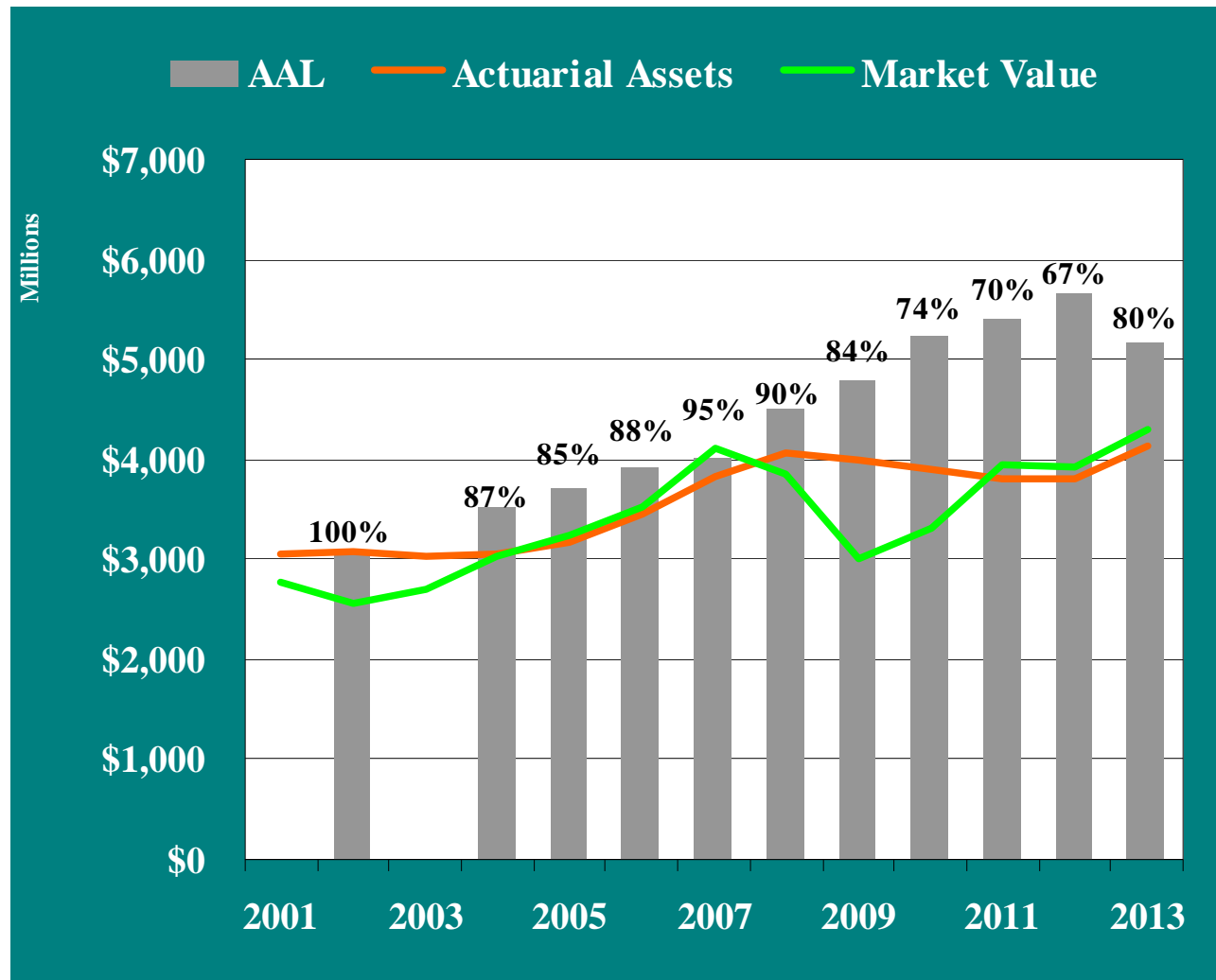




# Historical Trends (PERS)



# PERS Historical Trends Assets and Liabilities

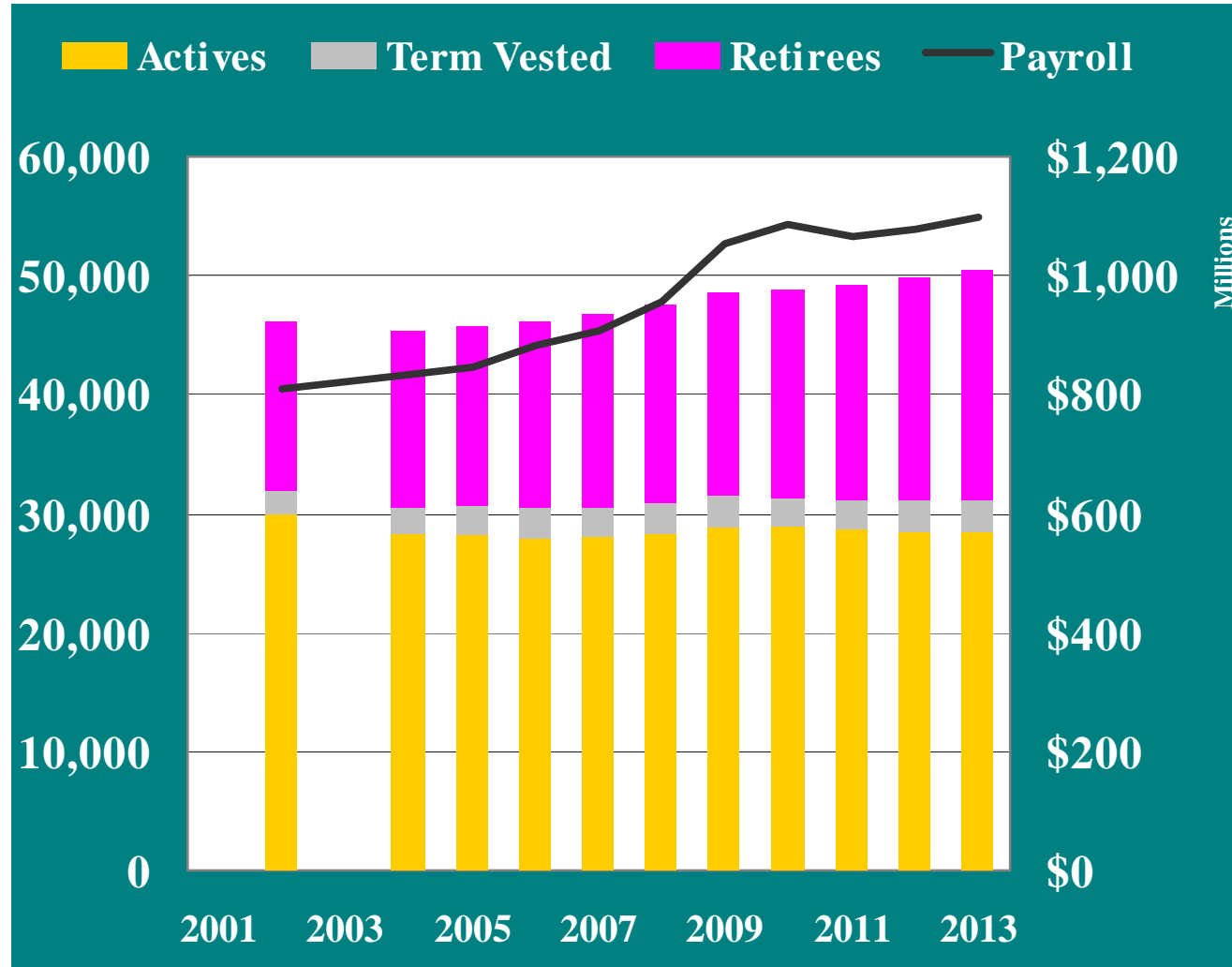






# PERS Historical Trends

## Participation





# Review of Actuarial Experience



# Plan Changes - PERS

- **HB 454**
  - Member contributions increased to 7.9%
    - Reduced to 6.9% when amortization period drops below 25 years and remains below 25 years following reduction
  - Employer contributions increased by 1%
    - Increase by additional 0.1% each succeeding year until reaching total increase of 2%
    - All additional contributions including the 0.27% added in 2007 and 2009 cease when amortization period drops below 25 years and remains below 25 years following reduction
  - Other contributions to PERS-DB fund
    - Coal tax
    - DCRP and ORP contributions
    - Additional Plan Choice Rate contributions
  - GABA reduced to 1.5% for all retirees
    - Further reduced 0.1% for each 2% that funded ratio is less than 90%
    - GABA is zero if amortization period exceeds 40 years



# Plan Changes - HPORS

- HB 336
  - Employer contribution rate from 36.33% to 38.33% of pay
  - Member contribution rate increases 1% per year for four years
  - Benefit multiplier increased from 2.5% to 2.6%
  - For members hired after July 1, 2013
    - GABA reduced from 3.0% to 1.5%
    - GABA waiting period increased from one year to three years
    - Vesting period increased from 5 years to 10 years



# Other Plan Changes

- Cap on compensation increases considered part of member's highest or final compensation (new members after July 1, 2013)
- Bonuses not included after July 1, 2013
- Some changes with respect to working retirees
- No impact on valuation results



# Review of Actuarial Experience

- Investment experience
  - Return on market value was 12% to 13% for all systems
  - Due to smoothing gains (2011 & 2013) and losses (2012), return on actuarial value was from about 11% to 12% for all systems, creating actuarial experience gains
- Liability experience
  - Liability loss in JRS due to retirements
  - Liability gain in GWPORS & HPORS due to salary
  - Liability loss in VFCA due to service adjustments and retroactive payouts
  - Other gains and losses were generally small as percent of liabilities



# 2013 Actuarial Valuations, Projections, and Stress Testing



# PERS Summary of Valuation Results

<b>Valuation as of:</b>	<b>June 30, 2012</b>	<b>June 30, 2013</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Active Members	28,548	28,401	-0.5%
Disabled Members	200	185	-7.5%
Retirees and Beneficiaries	18,538	19,266	3.9%
Terminated Vested Members	2,560	2,686	4.9%
Terminated Non-Vested Members	<u>6,164</u>	<u>6,712</u>	8.9%
Total	56,010	57,250	2.2%
Annual Salaries of Active Members	1,078,710,468	1,098,340,791	1.8%
Average Annual Salary	37,786	38,673	2.3%
Annual Retirement Allowances for Retired Members and Beneficiaries	258,468,971	281,465,581	8.9%





# PERS Summary of Valuation Results

	June 30, 2012	Before Plan Changes June 30, 2013	After Plan Changes June 30, 2013	Prior GABA New Contributions June 30, 2013
<b><u>Assets and Liabilities (000's)</u></b>				
Actuarial Accrued Liability (AAL)	5,661,282	5,916,199	5,160,951	5,902,663
Actuarial Value of Assets (AVA)	<u>3,816,920</u>	<u>4,139,921</u>	<u>4,139,921</u>	<u>4,139,921</u>
Unfunded AAL (AVA/AAL)	1,844,362	1,776,278	1,021,030	1,762,742
Less: PCR-UAL	<u>11,053</u>	<u>8,749</u>	<u>8,749</u>	<u>8,749</u>
Net Unfunded AAL	1,833,309	1,767,529	1,012,281	1,753,993
Funded Ratio	67%	70%	80%	70%
Market Value of Assets (MVA)	3,921,812	4,299,238	4,299,238	4,299,238
Ratio of Actuarial Value to Market Value	97%	96%	96%	96%



# PERS Summary of Valuation Results

	June 30, 2012	Before Plan Changes June 30, 2013	After Plan Changes June 30, 2013	Prior GABA New Contributions June 30, 2013
<b><u>Contributions as a Percentage of Payroll</u></b>				
<b>Statutory Funding Rates</b>				
Average Member Contribution Rate	7.01%	7.10%	7.90%	7.90%
Employer Contribution Rate	7.07%	7.07%	8.07%	8.07%
State Contribution Rate	0.10%	0.10%	0.10%	0.10%
Coal Tax as Percen of Comp.			2.61%	2.61%
DC/ORP Percent of Comp.			0.10%	0.10%
Total Statutory Funding Rate	14.18%	14.27%	18.78%	18.78%
Less: Transfer to DB Ed Fund	0.04%	0.04%	0.04%	0.04%
Net Statutory Funding Rate	14.14%	14.23%	18.74%	18.74%
Normal Cost Rate	11.80%	11.61%	10.90%	11.82%
Available for Amortization of UAL	2.34%	2.62%	7.84%	6.92%
Period to Amortize	Does not amortize	Does not amortize	14.5	43.7
Projected 30-year Level Funding Rate	20.71%	20.04%	15.75%	20.19%
Projected Shortfall (Surplus)	6.53%	5.77%	-3.03%	1.41%



# PERS HB 454 Calculations

	June 30, 2013
<b><u>Assets and Liabilities (000's)</u></b>	
Actuarial Accrued Liability	5,206,182
Actuarial Value of Assets	4,139,921
Unfunded AAL	1,066,261
Funded Ratio	80%
<b><u>Determination of amortization periods</u></b>	
Net Statutory Funding Rate	18.74%
Normal Cost Rate	11.02%
Available for Amortization of UAL	7.72%
Period to Amortize (years)	15.6
Net Statutory Funding Rate w/o temporary contributions	16.37%
Normal Cost Rate	11.02%
Available for Amortization of UAL	5.35%
Period to Amortize (years)	26.8
<b><u>GABA Determination next January 1</u></b>	
Funding ratio to nearest whole percentage	80%
GABA based on funded ratio	1.0%
Is amortization period over 40 years?	No
Final GABA	1.0%

*All calculations above assume all future GABAs at rate of 1.5% and no change in member contribution rate of 7.9%*

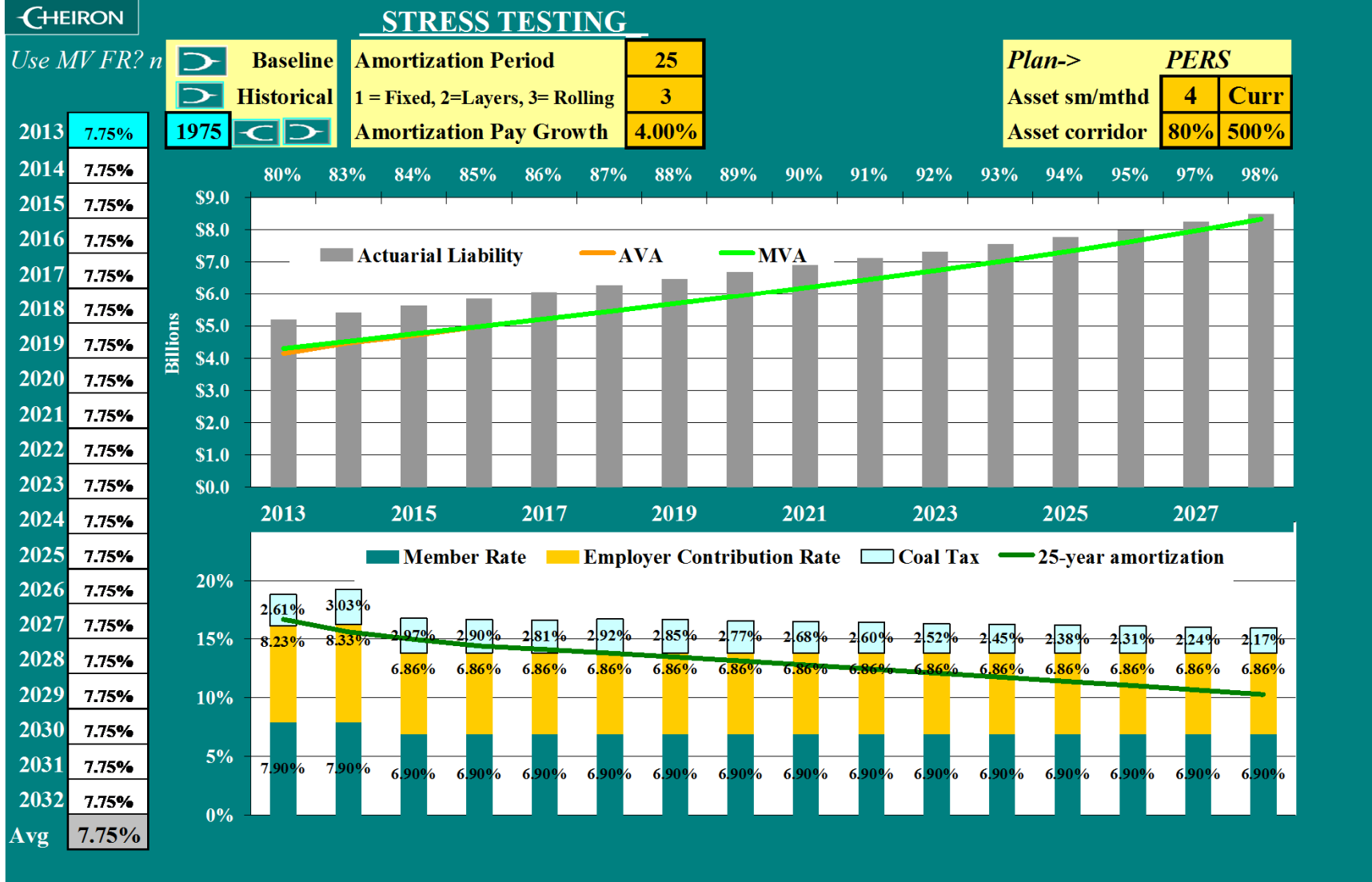


# New Assumptions - PERS

- Future GABA Increases
  - Disclosure purposes:
    - January 1, 2014: 1.0%
    - January 1, 2015: 1.2%
    - January 1, 2016: 1.2%
    - January 1, 2017: 1.3%
    - January 1, 2018: 1.3%
    - January 1, 2019: 1.4%
    - January 1, 2020: 1.4%
    - January 1, 2021 and later: 1.5%
  - HB454 calculation: 1.5% for all future years
- Future Member Contribution Rates
  - Disclosure purposes: 7.9% reduce January 1, 2015 to 6.9%
  - HB454 calculation: 7.9% for all future years



# Stress Testing the Future - PERS



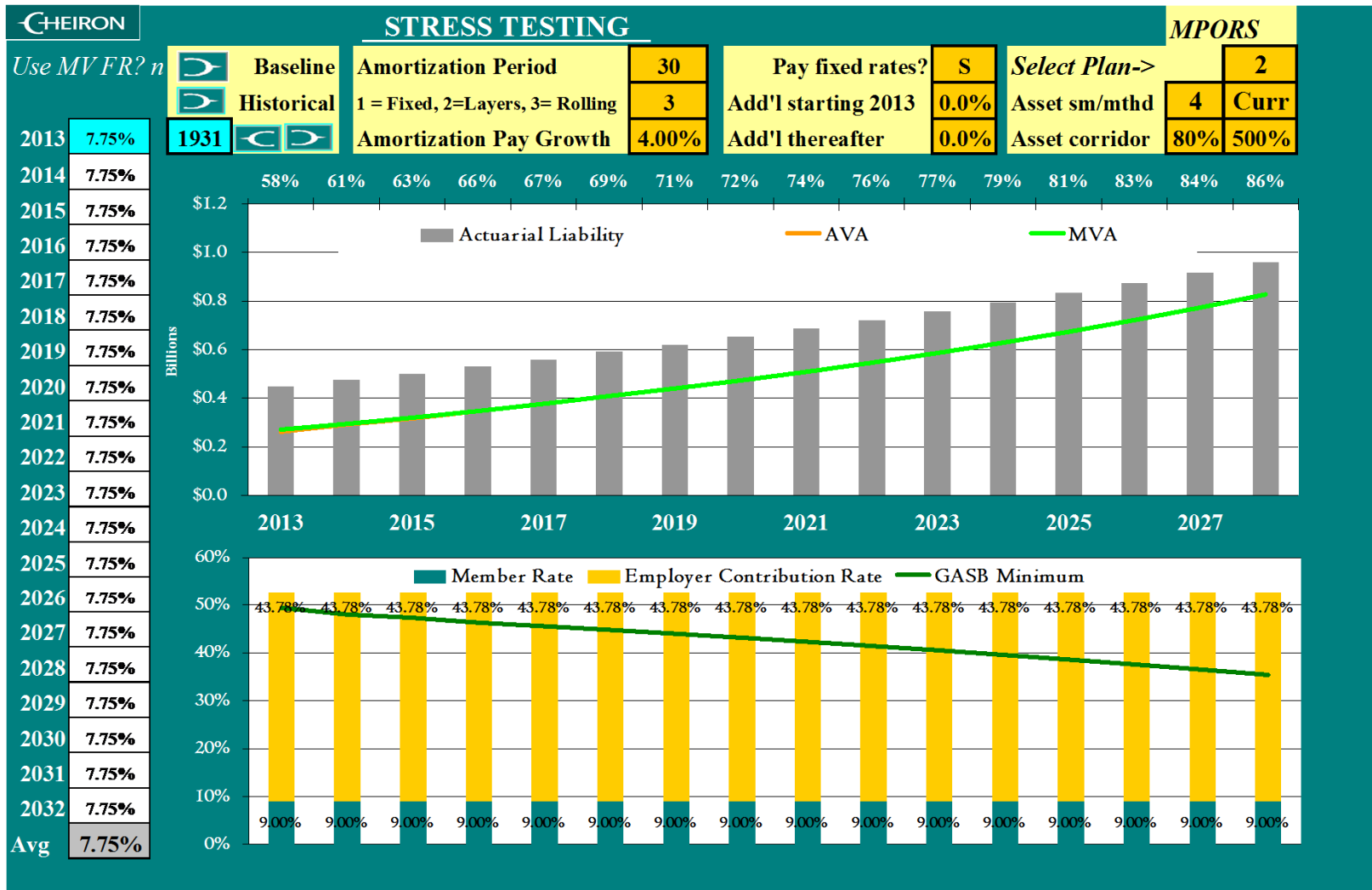


# Valuation Results – Other Plans

	<u>Funded Ratio</u>		<u>Amortization Period</u>	
	2012	2013	2012	2013
JRS	137%	143%	0.0	0.0
HPORS (prior plan)	58%	61%	49.7	52.8
HPORS (new plan)		60%		44.6
SRS	74%	77%	Does not amortize	Does not amortize
GWPORS	76%	80%	Does not amortize	Does not amortize
MPORS	55%	58%	25.7	23.8
FURS	62%	66%	16.4	13.9
VFCA	73%	75%	9.3	8.5



# Stress Testing the Future Other Plans





# Required Disclosures

- The purpose of this presentation is to present the annual actuarial valuation of the Montana Public Employee Retirement Administration. This presentation is for the use of the Montana Public Employees' Retirement Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements.
- In preparing our presentation, we relied on information (some oral and some written) supplied by the Montana Public Employee Retirement Administration. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.
- We hereby certify that, to the best of our knowledge, this presentation and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this presentation. This presentation does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.
- This presentation was prepared exclusively for the Montana Public Employees' Retirement Board for a for the purpose described herein. This presentation is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.
- The actuarial assumptions, data and methods are those used in the preparation of the latest actuarial valuation report prepared for these plans as of June 30, 2012, with exception of those changes due to HB 336 and HB 454.
- The assumptions reflect our understanding of the likely future experience of the Plans and the assumptions as a whole represent our best estimate for the future experience of the Plans. The results of this presentation are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the plan could vary from our results.

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