Retirement Systems of Minnesota

Minnesota State Retirement System • Public Employees Retirement Association • Teachers Retirement Association

Retirement System Financial Update

Winter 2016

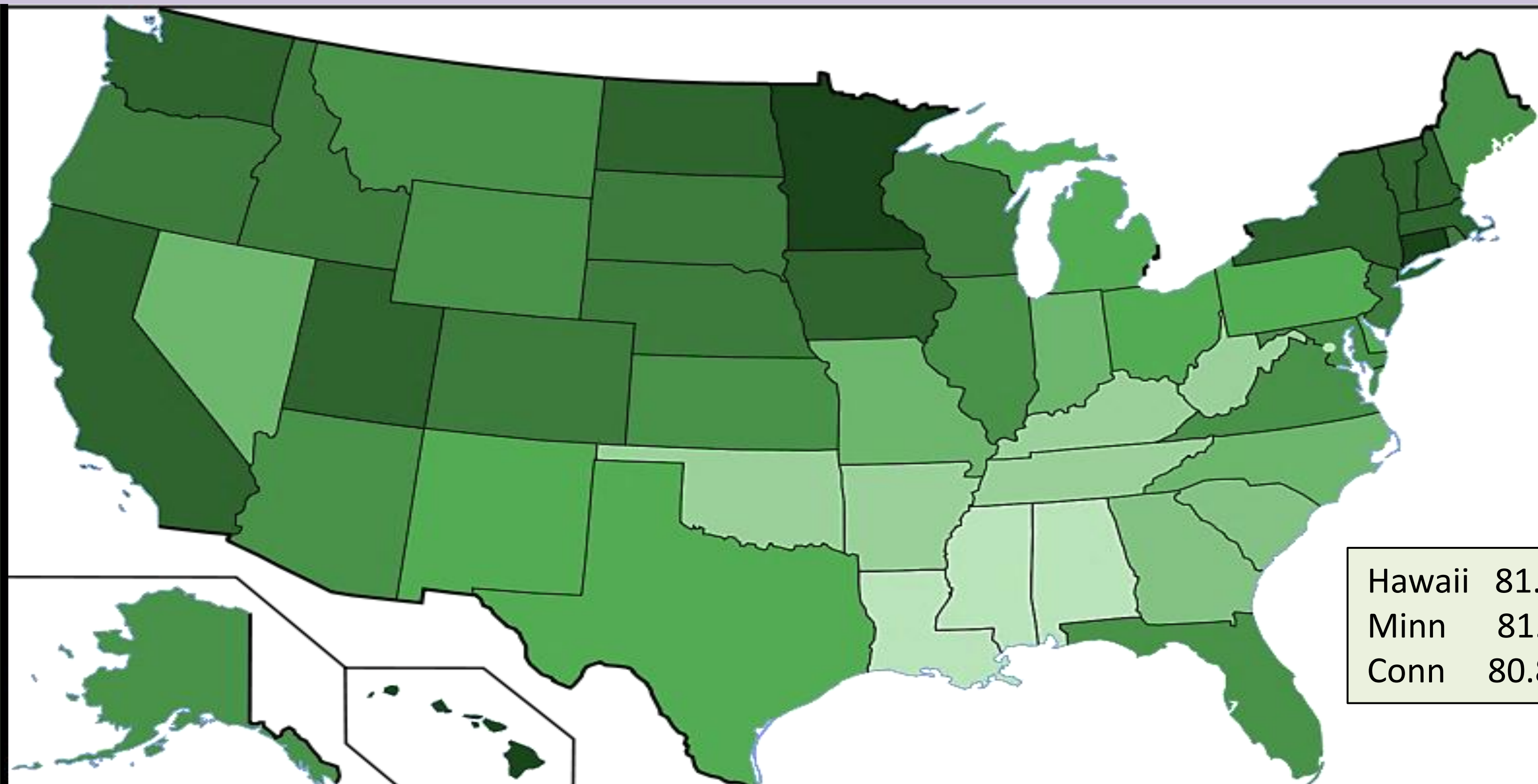
Experience study results

- Recently system actuaries completed experience studies which periodically evaluate actual vs expected experience with economic and demographic actuarial assumptions.
- Assumptions are long-term estimates that look to the future and cover 30-50-year projection periods.

Experience study recommendations:

- Lower general wage inflation assumption (also used for payroll growth) from 3.75 percent to 3.5 percent.
- Lower long-term investment return assumption to 8 percent.
- Recognize mortality improvements (longer lifespans) occurring now and in the future. Members and retirees are living much longer – on average an extra **two years**.

Geographic variations in life expectancy at birth



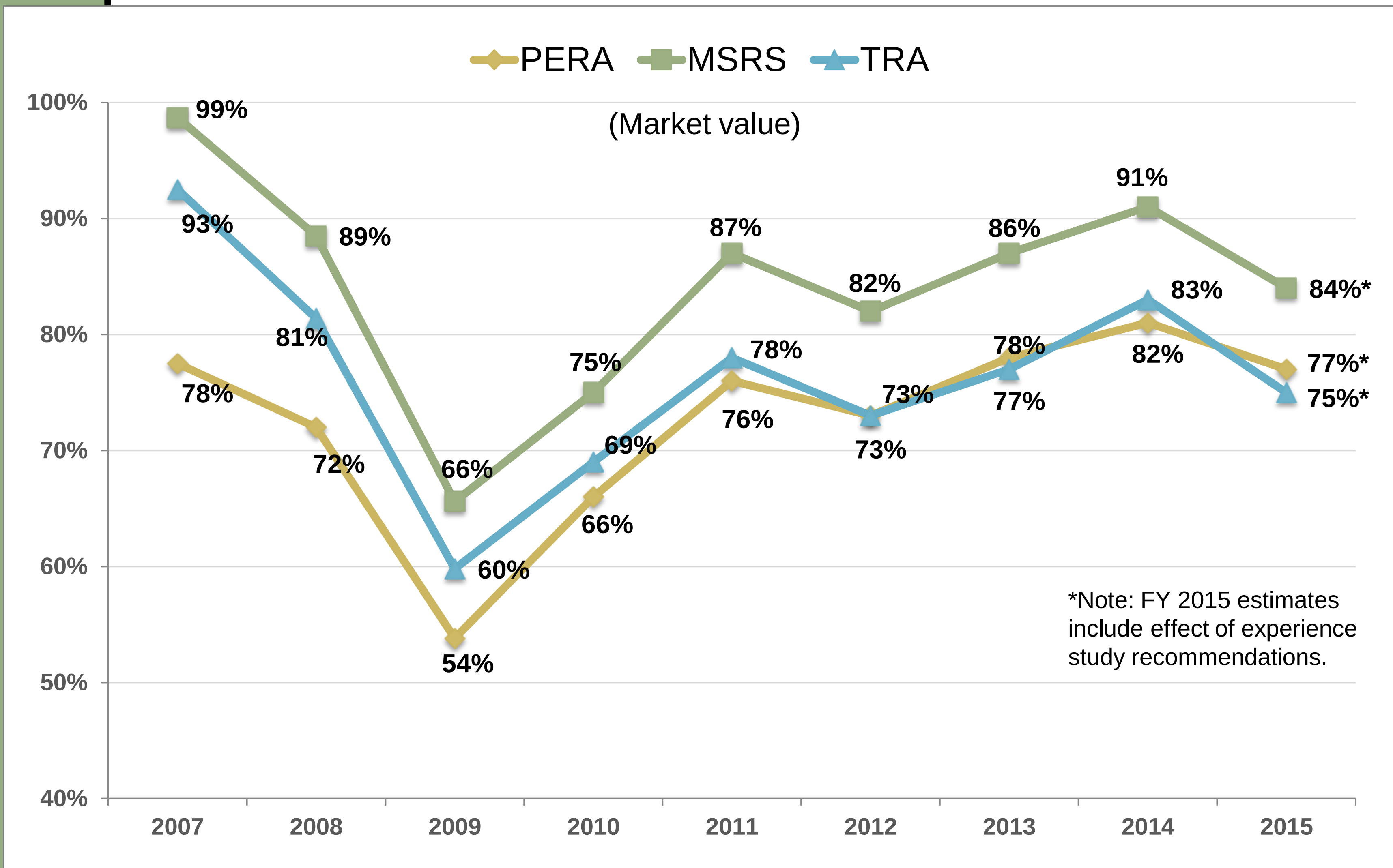
Hawaii 81.3
Minn 81.1
Conn 80.8

Legend:

<74.75	76.25-77	78.5-79.25
74.75-75.5	77-77.75	79.25-80
75.5-76.25	77.75-78.5	>80

Source: American Human Development Report, from Cavanaugh Macdonald 8/19/15 presentation to TRA Board

Funding ratios: Impact of assumption changes



Experience study: Cost impact on MSRS General Plan (market value)

MARKET VALUE	7/1/14 valuation	7/1/15 valuation (with all assumption changes except mortality) *	7/1/15 valuation (with all assumption changes including mortality)
Actuarial accrued liability	$12.4 billion	$13.1 billion	$13.8 billion
Market value of assets	$11.5 billion	$11.6 billion	$11.6 billion
Funded ratio	92.4%	88.9%	83.9%
Total required contribution as % of pay	10.0%	11.5%	13.8%
Employee plus employer contributions	11.0%	11.0%	11.0%
Sufficiency / (deficiency) as % of pay	1.0%	(0.5%)	(2.8%)

* Assumption changes include 8% investment return, lower wage/salary growth.

Experience study: Cost impact on TRA (market value)

<u>MARKET VALUE</u>	7/1/14 valuation	7/1/15 valuation (with no assumption changes)	7/1/15 valuation (with all assumption changes)*
Actuarial accrued liability	$24.5 billion	$25.6 billion	$27.1 billion
Market value of assets	$20.3 billion	$20.4 billion	$20.4 billion
Funded ratio	82.7%	80.0%	75.4%
Total required contribution as % of pay	15.7%	16.7%	20.5%
Employee plus employer contributions	15.7%	16.0%	16.0%
Sufficiency / (deficiency) as % of pay	(0%)	(0.7%)	(4.5%)

* Assumption changes include 8% investment return, lower payroll/salary growth and mortality improvements.

Experience study: Cost impact on PERA General Plan (market value)

MARKET VALUE	7/1/14 valuation	7/1/15 valuation (with all assumption changes except mortality) *	7/1/15 valuation (with all assumptions including mortality)
Actuarial accrued Liability	$21.3 billion	$23.6 billion	$24.1 billion
Market value of assets	$17.4 billion	$18.6 billion	$18.6 billion
Funded ratio	81.8%	78.9%	77.2%
Total required contribution as % of pay	13.2%	15.0%	15.4%
Employee plus employer contributions	13.7%	14.7%	14.7%
Sufficiency / (deficiency) as % of pay	0.5%	(0.3%)	(0.7%)

* Assumption changes include 8% investment return, lower wage/salary growth.

MSRS sustainability proposals

GOAL: Improve funded ratios and address deficiencies caused by economic and mortality changes.

MSRS General Plan

- Contribution rates starting July 1, 2017
  - Employee: Increase from 5.5 percent to 6 percent ($13.6 million)
  - Employer: Increase from 5.5 percent to 7 percent ($40.9 million)
- COLA (also applies to Unclassified Plan and Legislator's Plan)
  - Reduce COLA from 2.0 percent to 1.75 percent
  - Eliminate automatic trigger raising COLA to 2.5 percent

RESULT: Lowers MSRS liabilities by $400 million, eliminates deficiency and creates small sufficiency

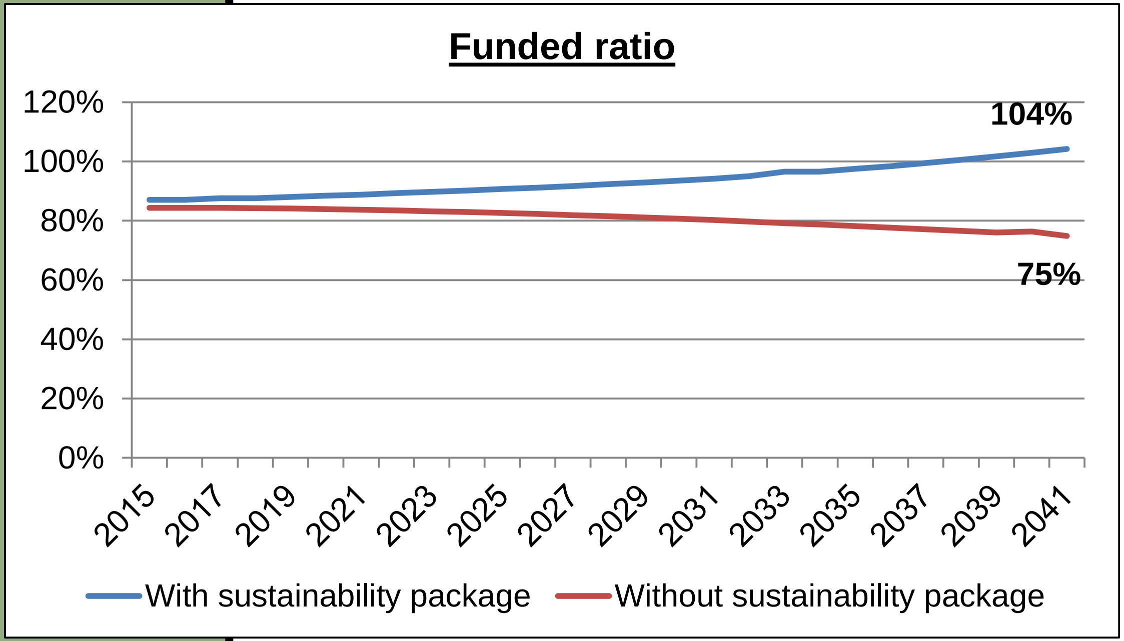
MSRS Correctional Plan

- COLA
  - Reduce COLA from 2.0 percent to 1.75 percent
  - Eliminate automatic trigger raising COLA to 2.5 percent

MSRS Judges Plan

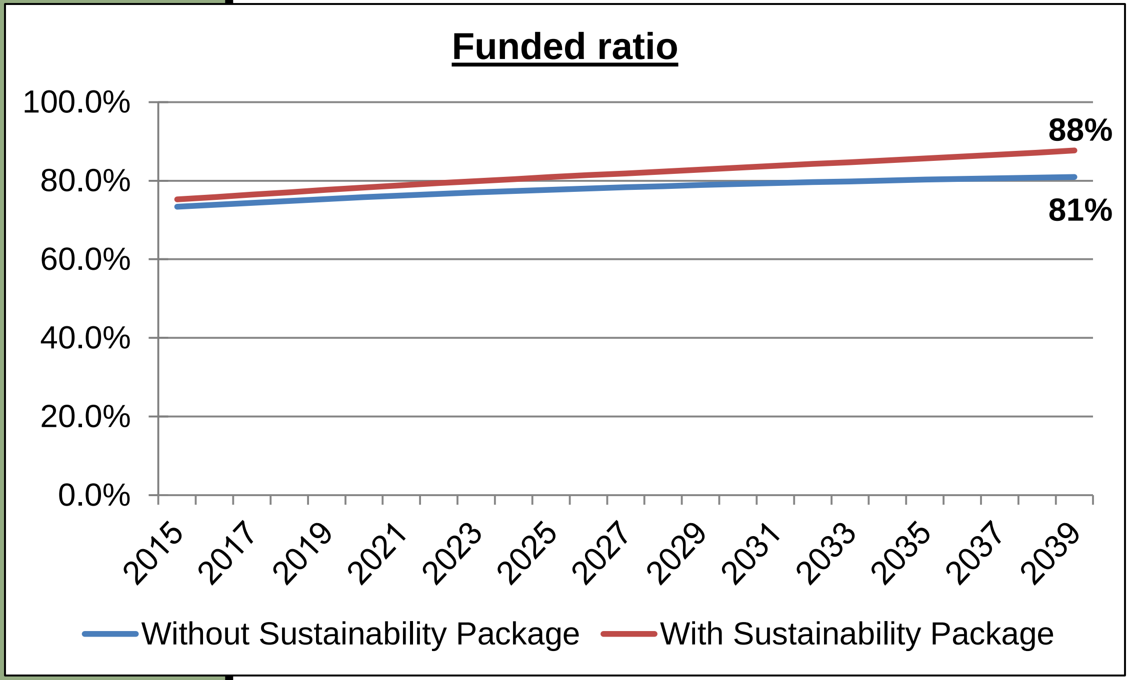
- $6 million appropriation request

MSRS: Impact of sustainability measures



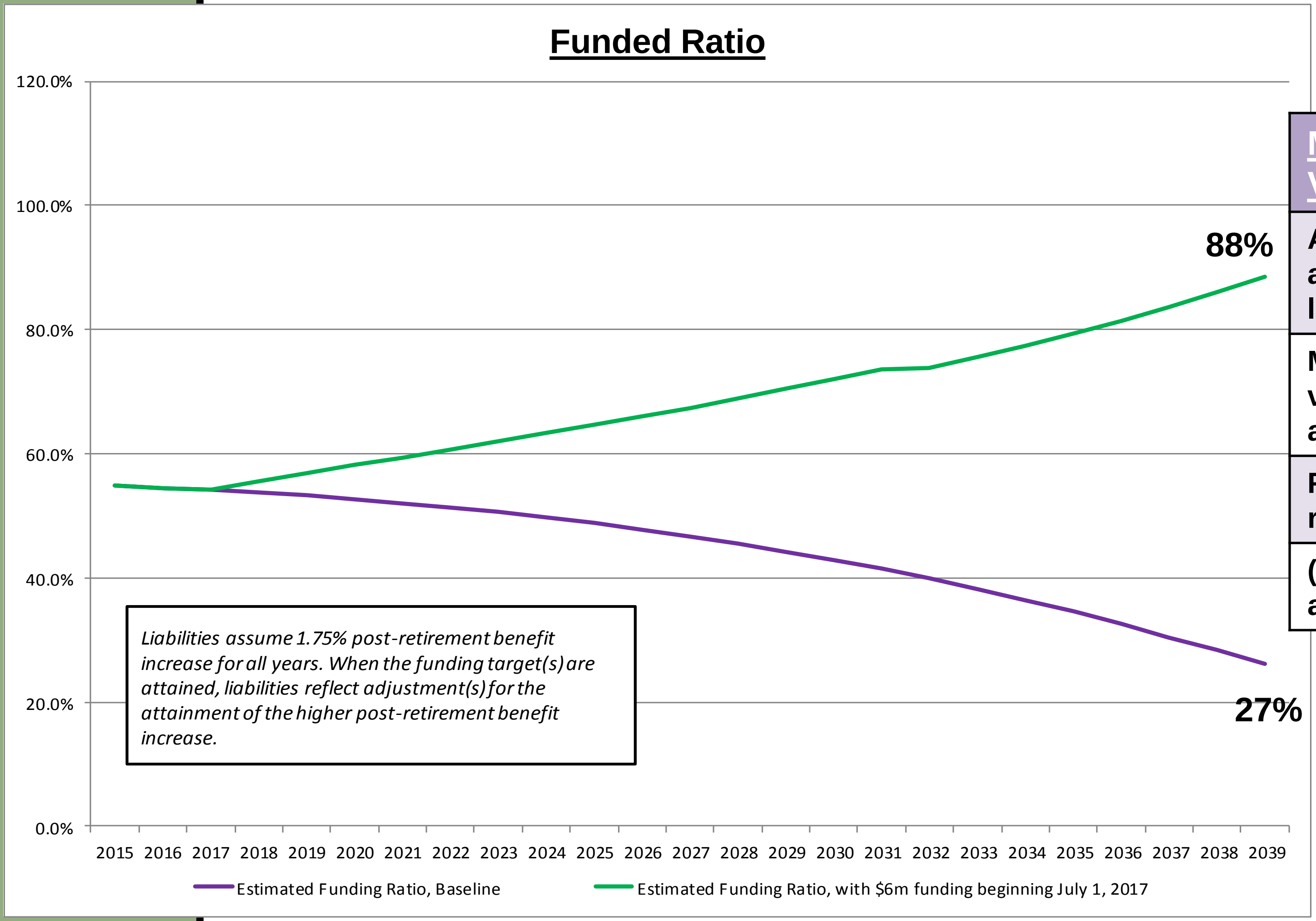
MARKET VALUE	7/1/15 valuation (with all assumption changes including mortality)	7/1/15 valuation (estimated) with sustainability measures
Actuarial accrued liability	$13.8 billion	$13.4 billion
Market value of assets	$11.6 billion	$11.6 billion
Funded ratio	83.9%	87.0%
Total required contribution as % of pay	13.8%	12.5%
Employee plus employer contributions	11.0%	13%
Sufficiency / (deficiency) as % of pay	(2.8%)	0.5%

MSRS Correctional:
Impact of sustainability measures



MARKET VALUE	7/1/15 valuation (with all assumption changes including mortality)	7/1/15 valuation (estimated) with sustainability measures
Actuarial accrued liability	$1.239 billion	$1.208 billion
Market value of assets	$909 million	$909 million
Funded ratio	73.4%	75.2%
Total required contribution as % of pay	26.5%	25.2%
Employee plus employer contributions	21.9%	21.9%
Sufficiency / (deficiency) as % of pay	(4.6%)	(3.3%)

MSRS Judges Plan:
Impact of $6 million appropriation



MARKET VALUE	7/1/2015 Valuation
Actuarial accrued liability	$319 million
Market value of assets	$175 million
Funded ratio	54.8%
(Deficiency) as % of pay	(11.6%)

TRA sustainability proposals

TRA

Contribution rates

- Employee: Unchanged (7.5 percent)
  Employer: Increase from 7.5 percent to 8.5 percent, effective 7/1/17, $43 million per year

COLA – Affects **both** retirees and current actives

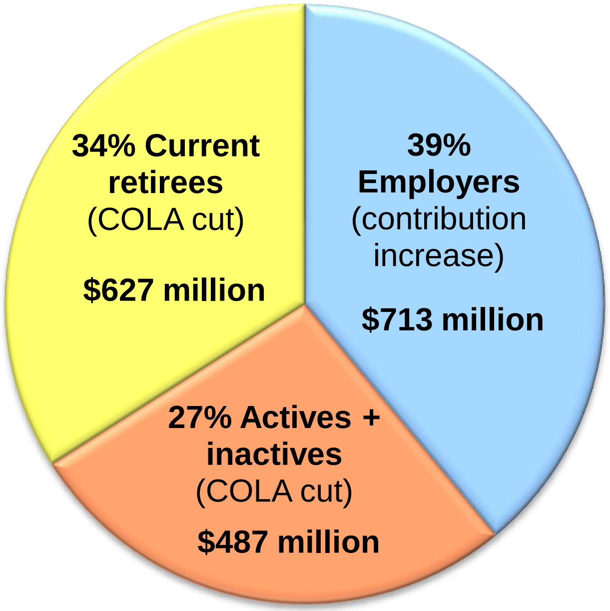
- Reduced COLA from 2 percent to 1 percent for 5 years, 1.75 percent after, effective 1/1/17
- Eliminate automatic trigger raising COLA to 2.5 percent

Amortization period: 30 years (2046)

RESULT:

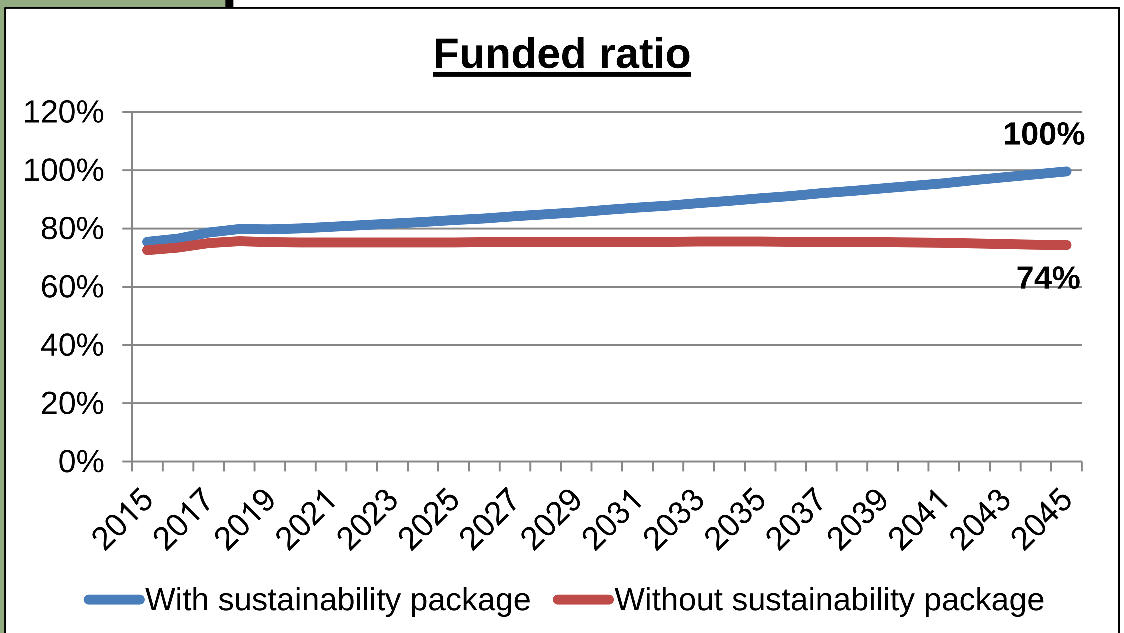
- Reduces deficiency by 4.2 percent of pay
- Saves $1 billion in liabilities
- Eliminating COLA trigger reduces required contributions by 1% of pay
- Attains 100 percent funded goal in 30 years

TRA SUSTAINABILITY PLAN:
Portion of solution borne by each group*



***Present value of contributions and benefit cuts over 30 years**

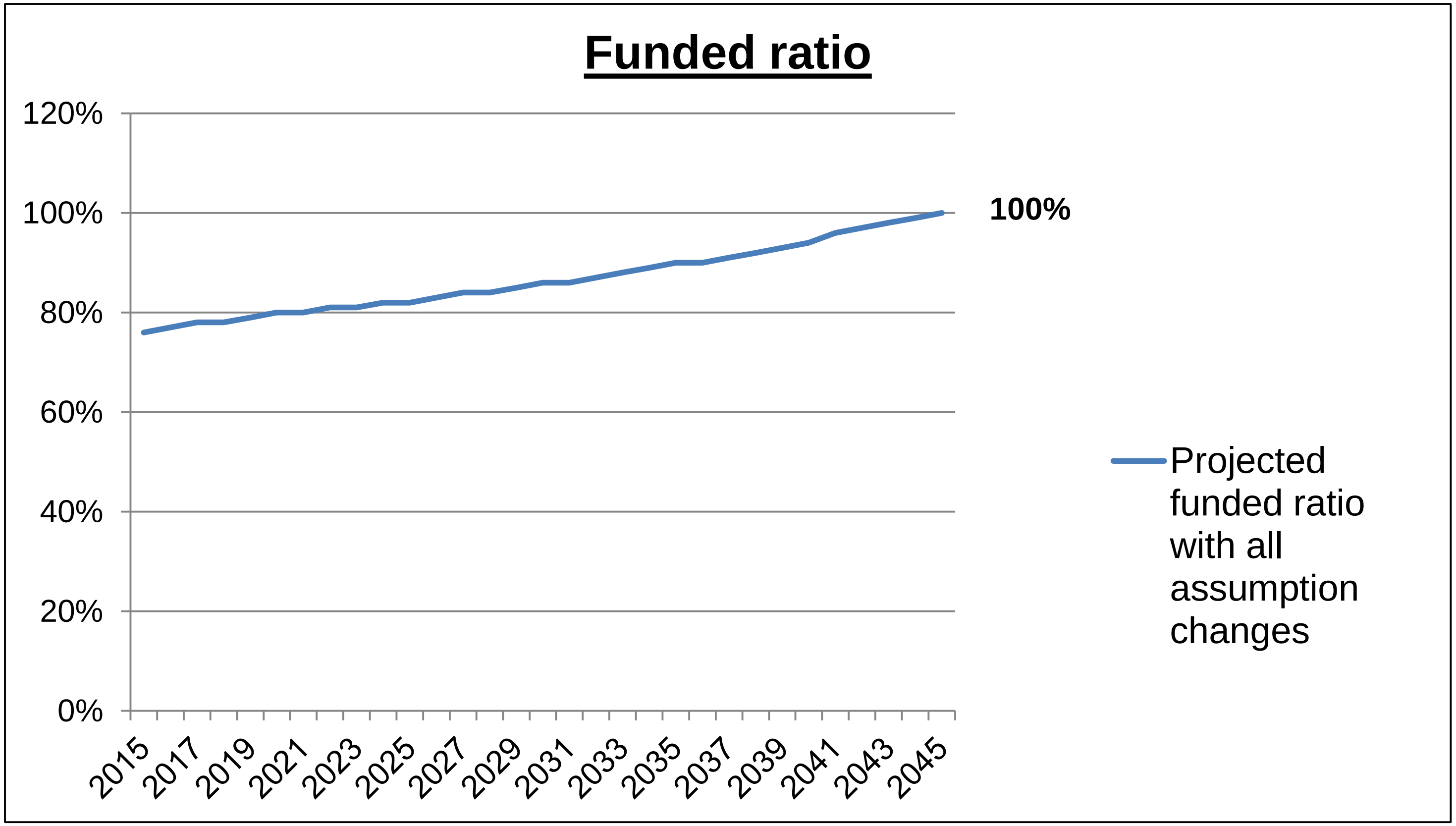
TRA: Impact of sustainability measures



MARKET VALUE	7/1/15 valuation (with all assumption changes)*	7/1/15 valuation (estimated) with sustainability measures
Actuarial accrued liability	$27.1 billion	$26.1 billion
Market value of assets	$20.4 billion	$20.4 billion
Funded ratio	75.4%	78.4%
Total required contribution as % of pay	20.5%	17.3%
Employee plus employer contributions	16.0%	17.0%
Sufficiency / (deficiency) as % of pay	(4.5%)	(0.3)%

PERA: Monitoring financial status

- Plan sufficiently stable now, no immediate need for corrective action
- Meeting with stakeholder groups



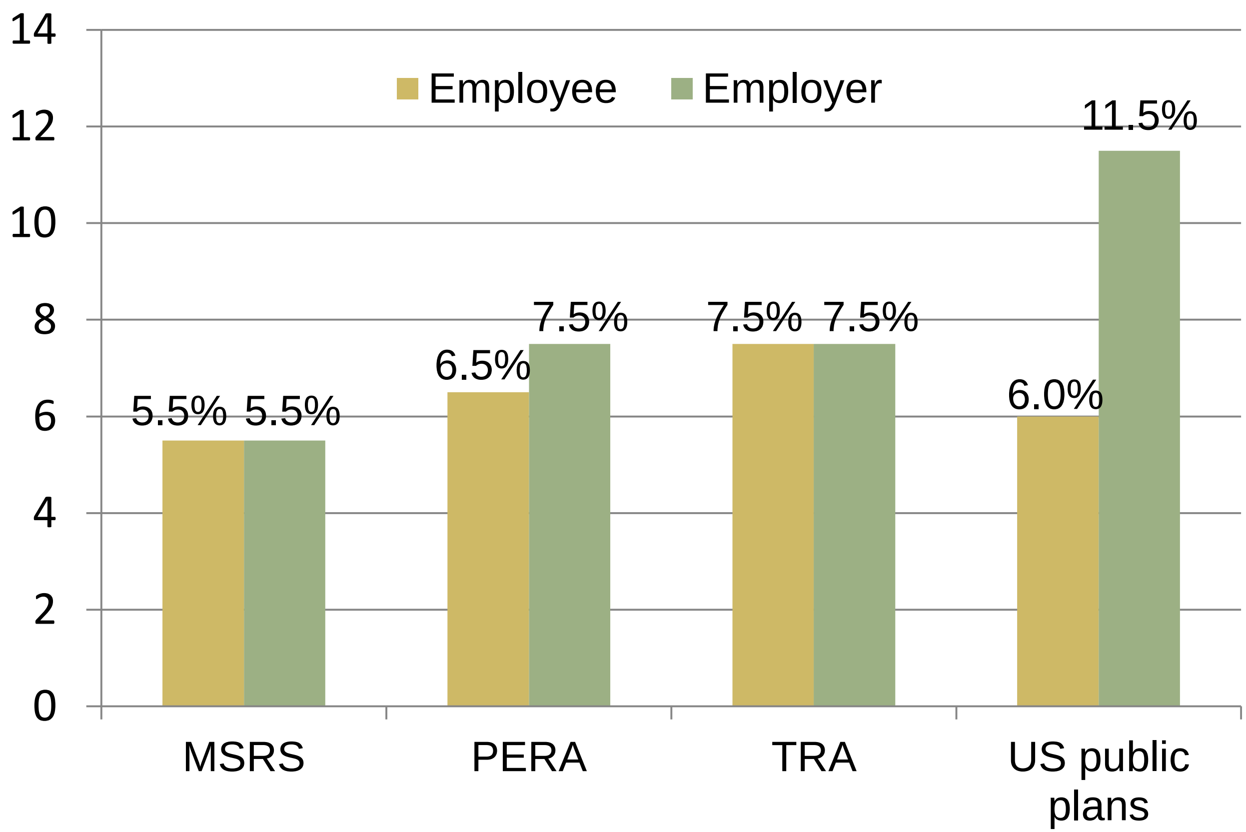
Previous + proposed reforms save $8.2 billion

- Minnesota one of the first states to enact pension reforms in wake of Great Recession.
- Took bold corrective action in 2010-2013 with bipartisan support.

Plan	Liability reduction 2010-2013	Liability reduction 2016
MSRS General	$ 650,000,000	$ 400,000,000
MSRS Correctional	$ 45,000,000	$ 31,000,000
MSRS State Patrol	$ 97,000,000	
MSRS Judges Plan	$ 38,000,000	
PERA General	$ 2,800,000,000	
PERA P&F	$ 1,082,000,000	
PERA Correctional	$ 15,000,000	
TRA	$ 1,750,000,000	$ 1,000,000,000
TOTAL	**$ 6,819,000,000**	**$ 1,431,000,000**

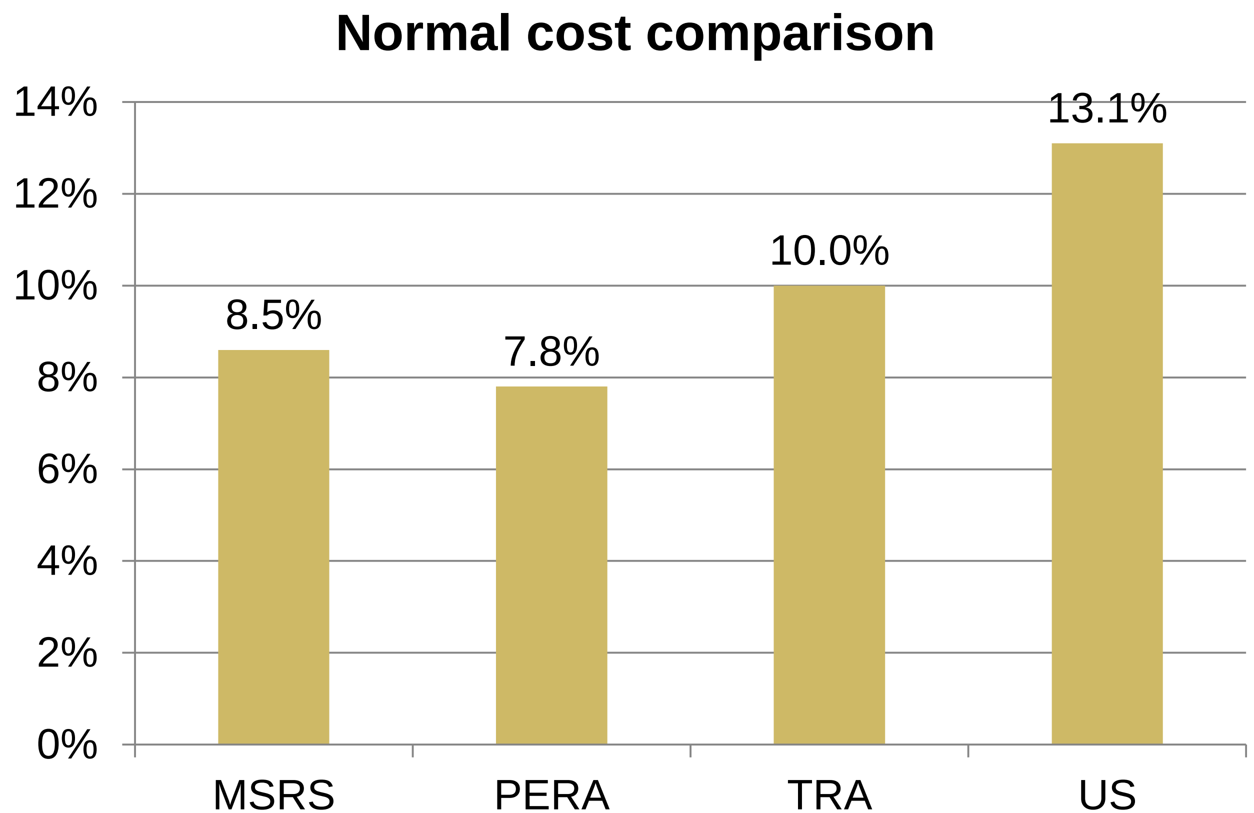
* Reduction in liabilities for all current active and retired members

Employer contribution rates in MN lower



Source: NASRA FY2014 for Social Security-covered plans

Employees pay higher portion of costs



	MSRS	PERA	TRA	US
Employee-paid portion of normal costs	**65%**	**83%**	**75%**	**54%**

Sources: NASRA, FY2014 for Social Security-covered plans (U.S.); Minnesota retirement systems FY2015 estimates reflecting all assumption changes.

Minnesota unlike other states

- **Disciplined funding.** Problems are corrected as they occur, with positive effect on state's bond rating.
- **Proactive pension reforms.** 2010-2013 sustainability legislation was critical, cost savings: over $6.4 billion
- **Modest benefits.** The average pension for PERA is $1,100/month; for MSRS, $1,600/month; for TRA, $2,200. Minnesota pension systems moved to a very high (age 66) normal retirement age over 24 years ago which has lowered costs.
- **Employer contributions** in Minnesota are 2 percent of state and local government spending, compared to 3.7 percent in other states. (Census Bureau)
- **Benefits promote self-sufficiency** and reduce elder poverty and long-term health care costs.

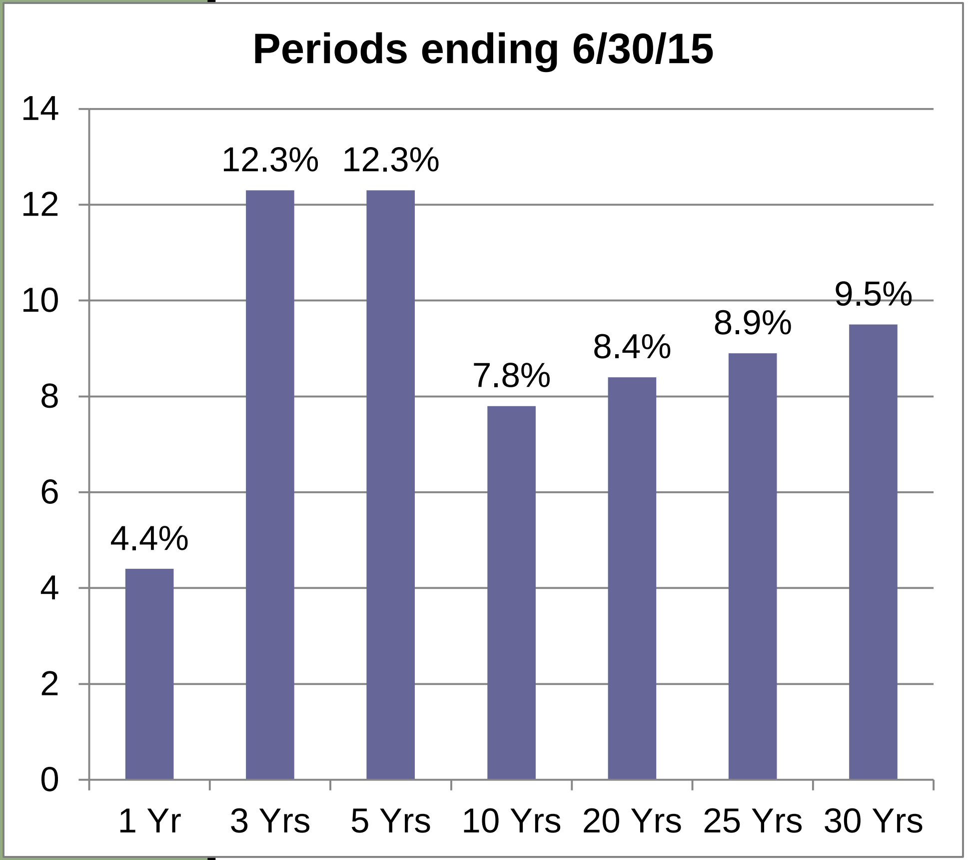
Supplementary Information

Investment returns critical to funding

Sources of MN public pension fund revenue, 1990-2015
(PERA, MSRS, TRA)

National public pension average:
(Source: National Association of State Retirement Administrators)

State Board of Investment returns



SBI ranks very high among other funds
(for periods ending 6/30/2015)

	1 Yr	3 Yr	5 Yr	10 Yr
SBI rank vs. all private/public funds (1 = best, 100 = worst)	**21st**	**9th**	**6th**	**14th**

SBI returns exceed other public funds
Annualized returns
(for periods ending 6/30/2015)

	1 Yr	5 Yr	10 Yr	25 Yr
SBI	4.4%	12.3%	7.8%	8.9%
Public pension median	3.2%	10.4%	6.6%	8.4%