



**Retirement Security
Act**

SB 141

March 16th, 2005



Alaska State Legislature
Senate Finance Committee

Presentation Outline

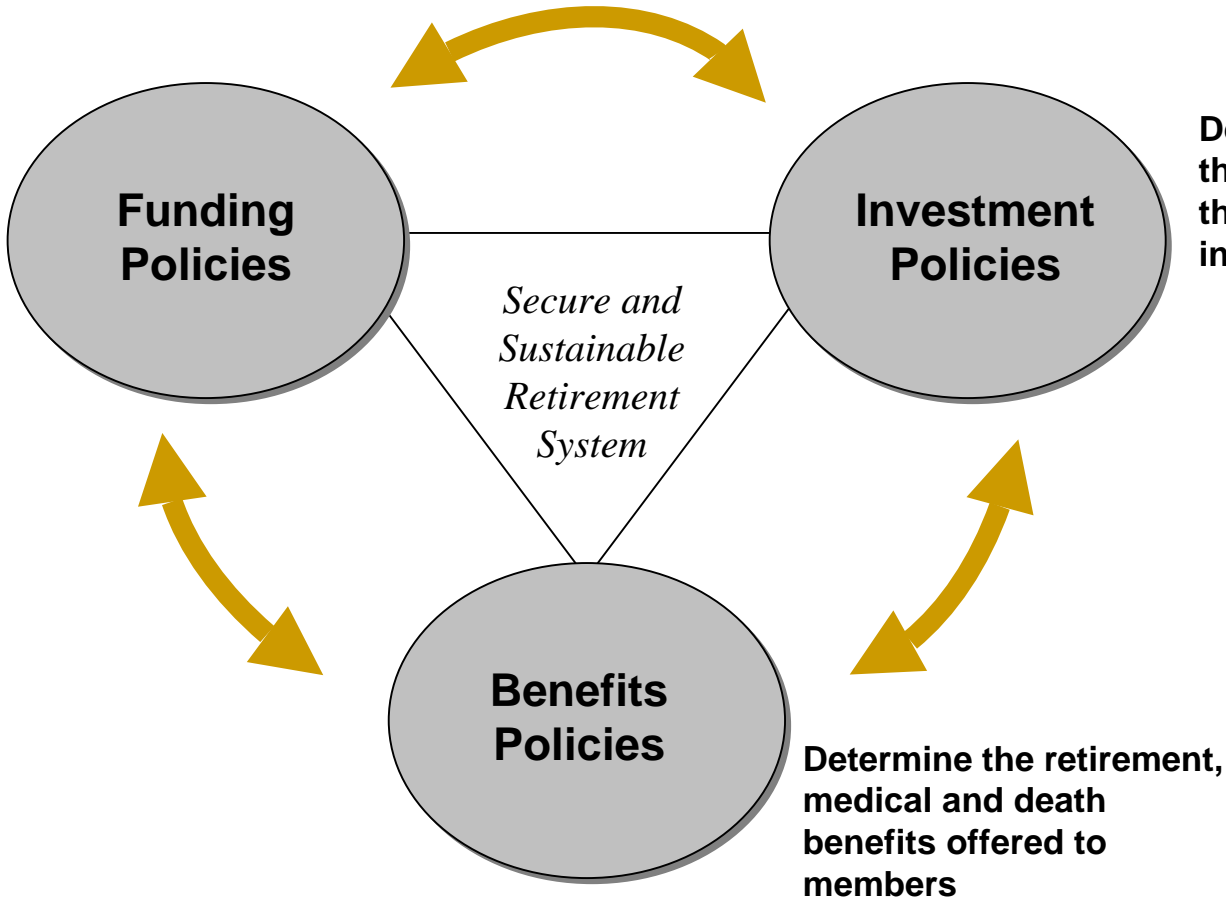
- How a retirement system works
- What is the current status of Alaska's system?
- What went wrong?
- SB 141 Overview
- SB 141 Walk-through (*March 17th, 2005*)
- Appendices



How a retirement system works



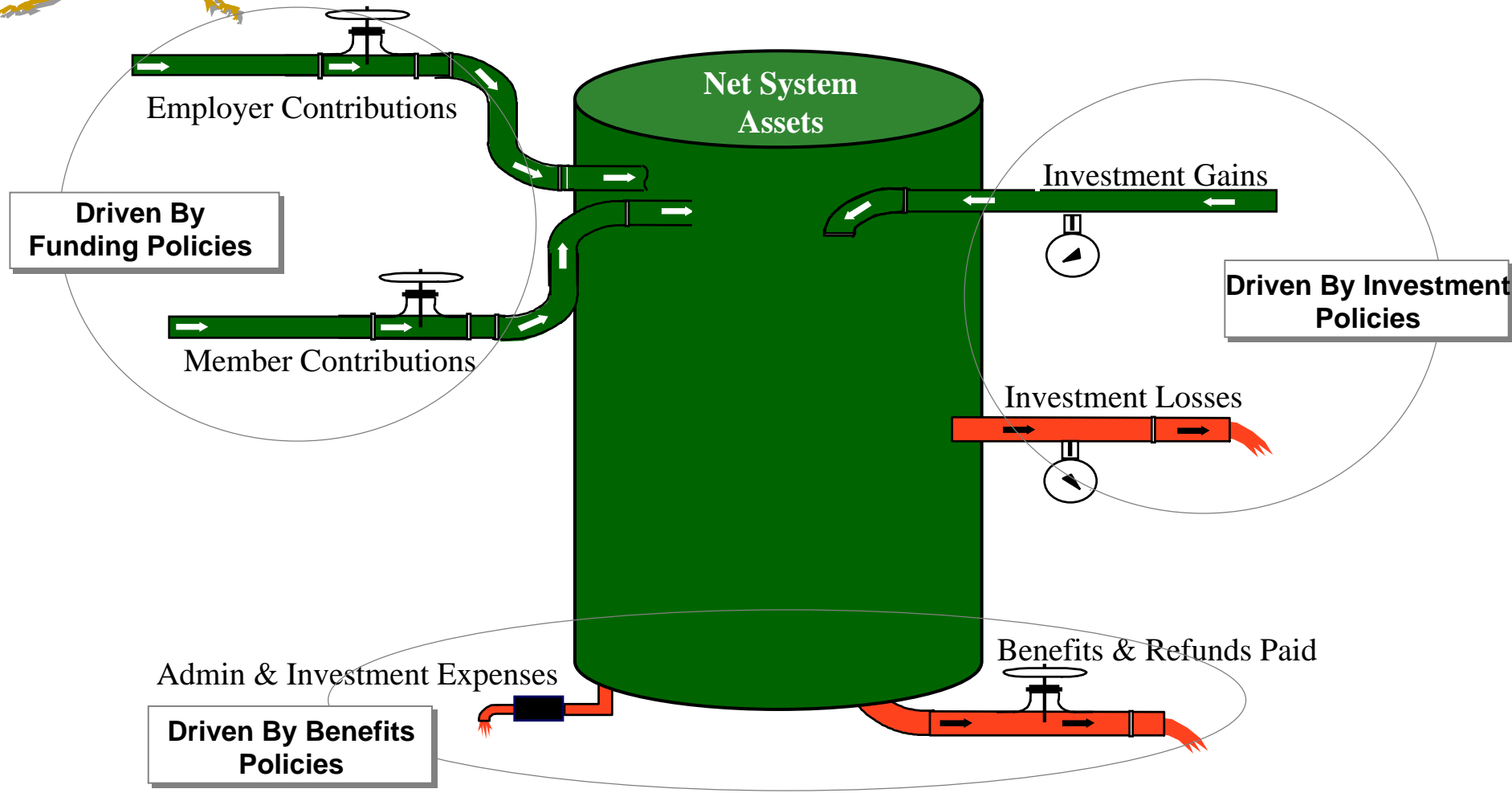
Determine how new monies come into the system



Determine how the money in the system is invested

Determine the retirement, medical and death benefits offered to members

All Three System Components Must be Working in Balance



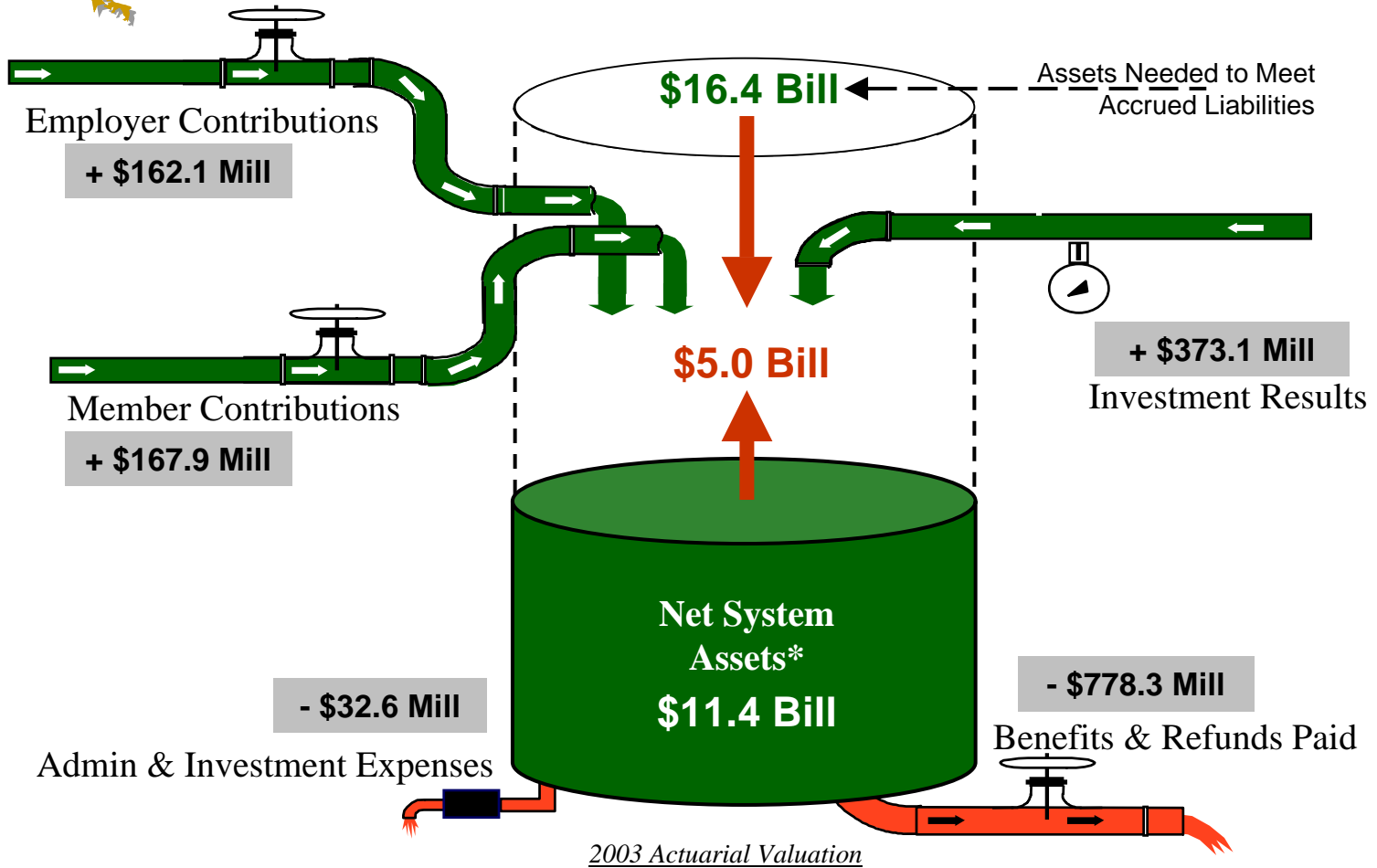
Net System Assets Must Be Sufficient to Pay Future Benefits





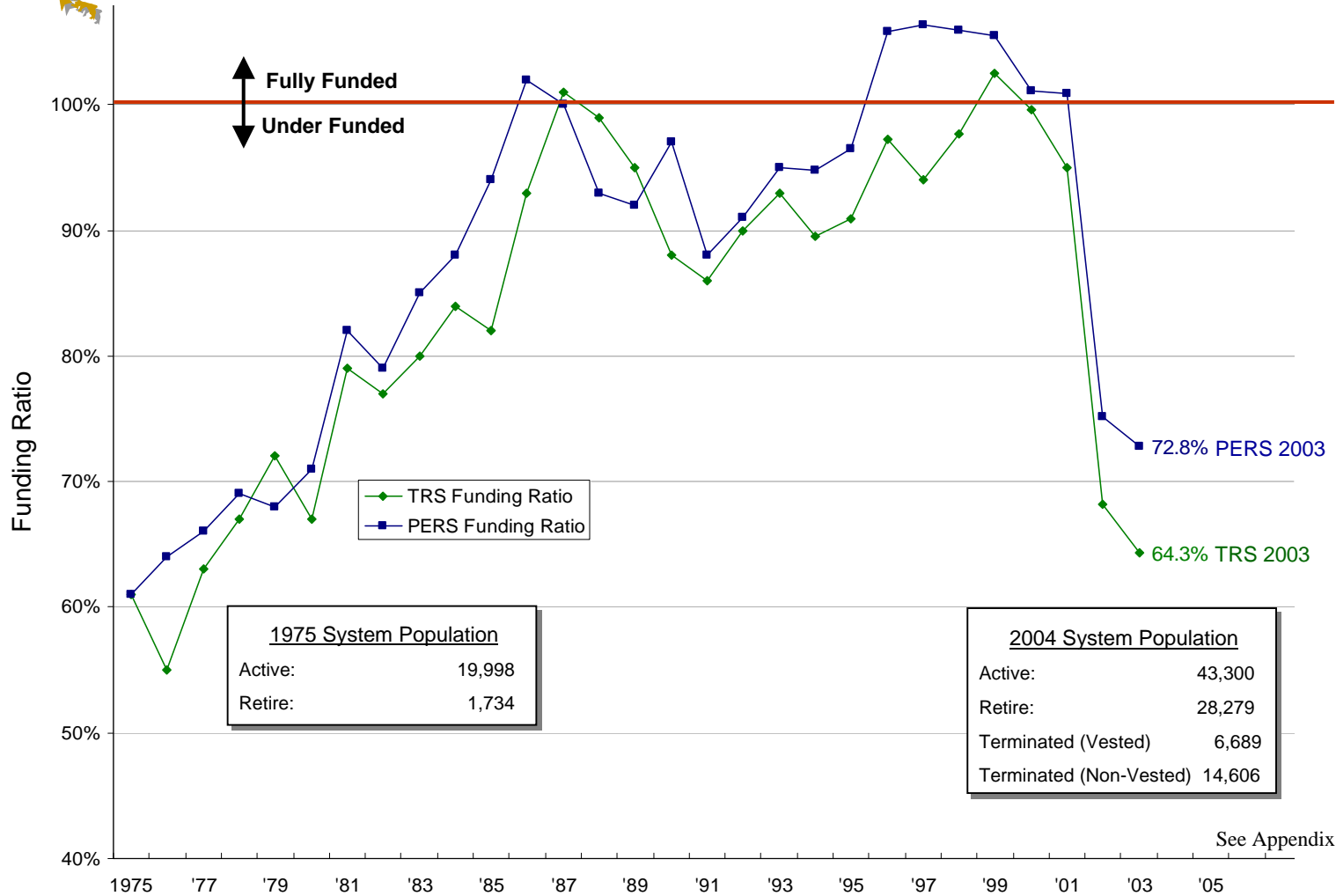
What is the status of
Alaska's system?





*Combined PERS & TRS Actuarial Asset Values

PERS & TRS Have A Combined \$5.0 Billion Unfunded Liability



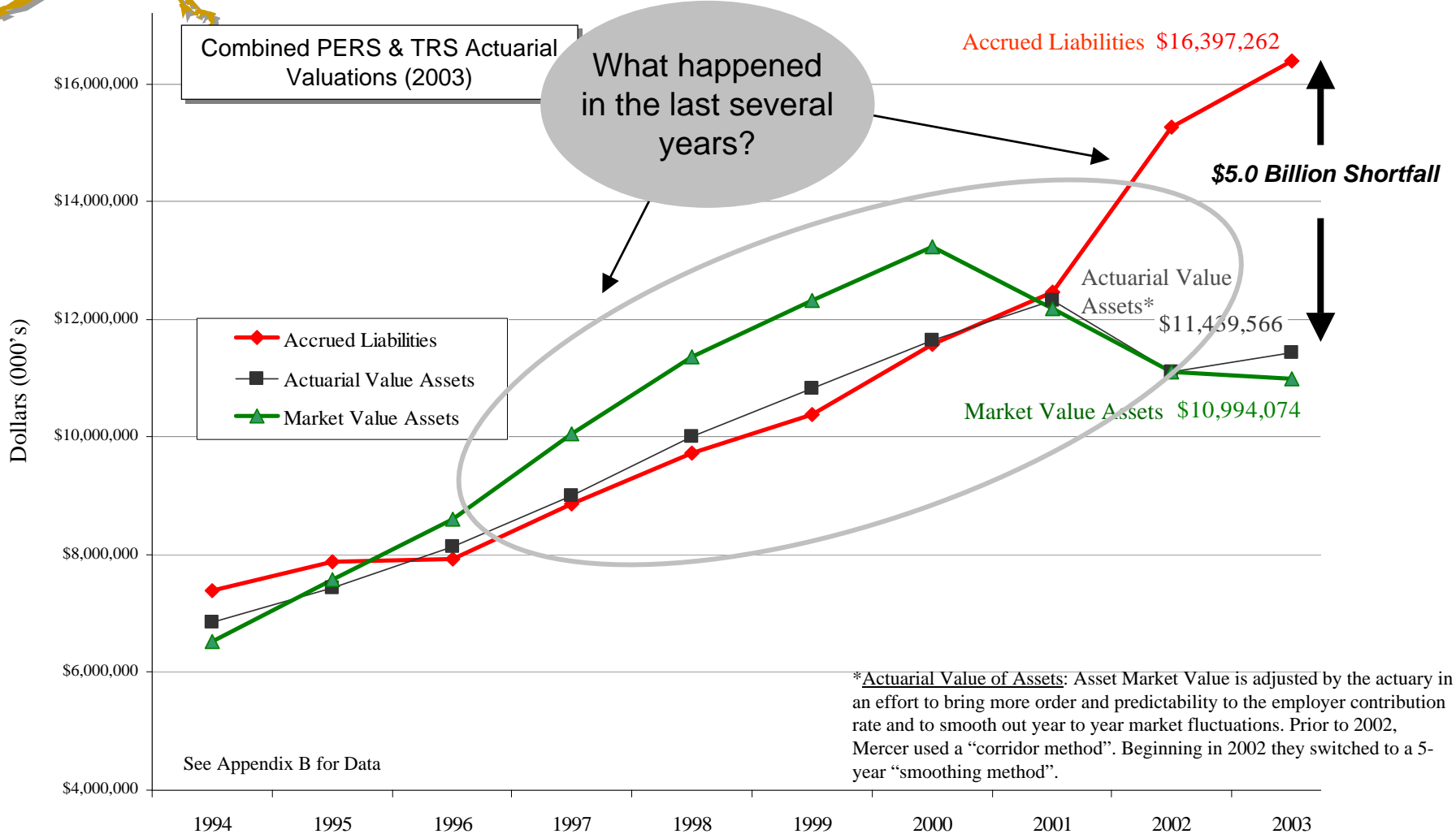
See Appendix A for Data

Historical PERS & TRS Funding Ratios

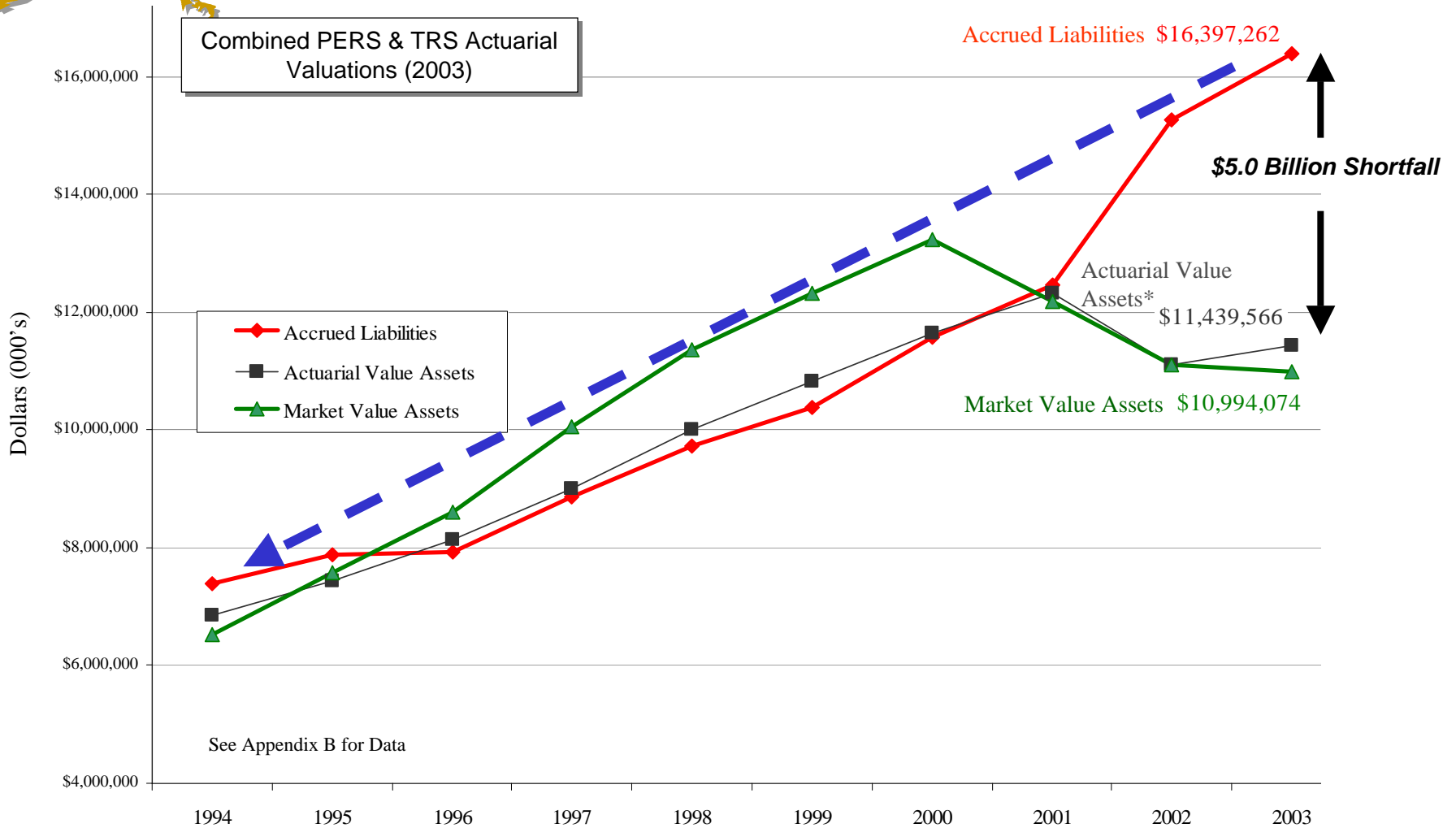


What went wrong?

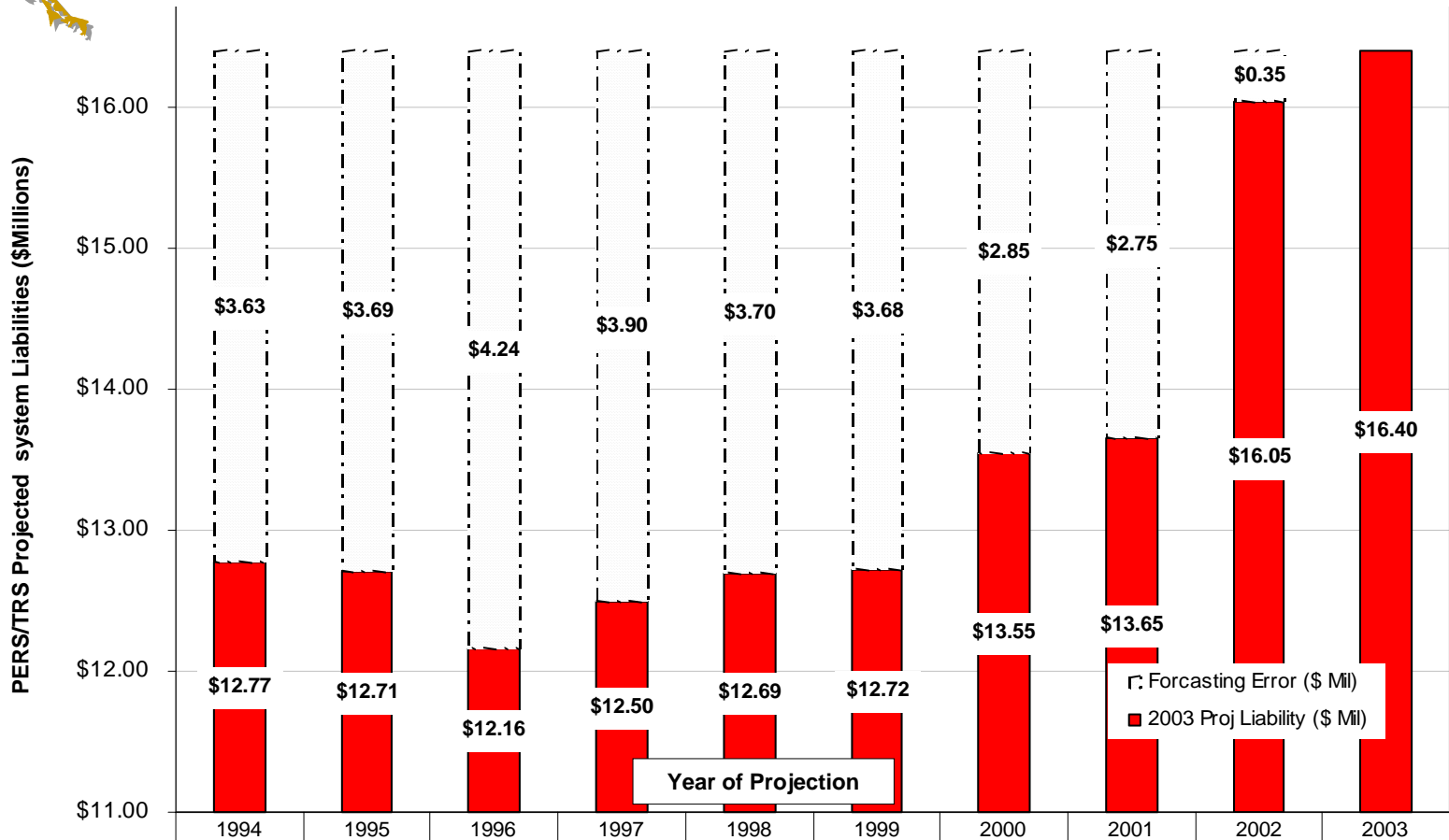




Clearly Something Changed Since 2000



We Have Been Understating Our Liabilities For the Past Several Years



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forecasting Error (\$ Mil)	\$3.63	\$3.69	\$4.24	\$3.90	\$3.70	\$3.68	\$2.85	\$2.75	\$0.35	\$-
2003 Proj Liability (\$ Mil)	\$12.77	\$12.71	\$12.16	\$12.50	\$12.69	\$12.72	\$13.55	\$13.65	\$16.05	\$16.40
Error Percentage	28.40%	29.04%	34.86%	31.23%	29.17%	28.96%	21.05%	20.13%	2.19%	0.00%

Why Have Liabilities Grown at 9.27% vs A Projected Growth of 5.60% ?

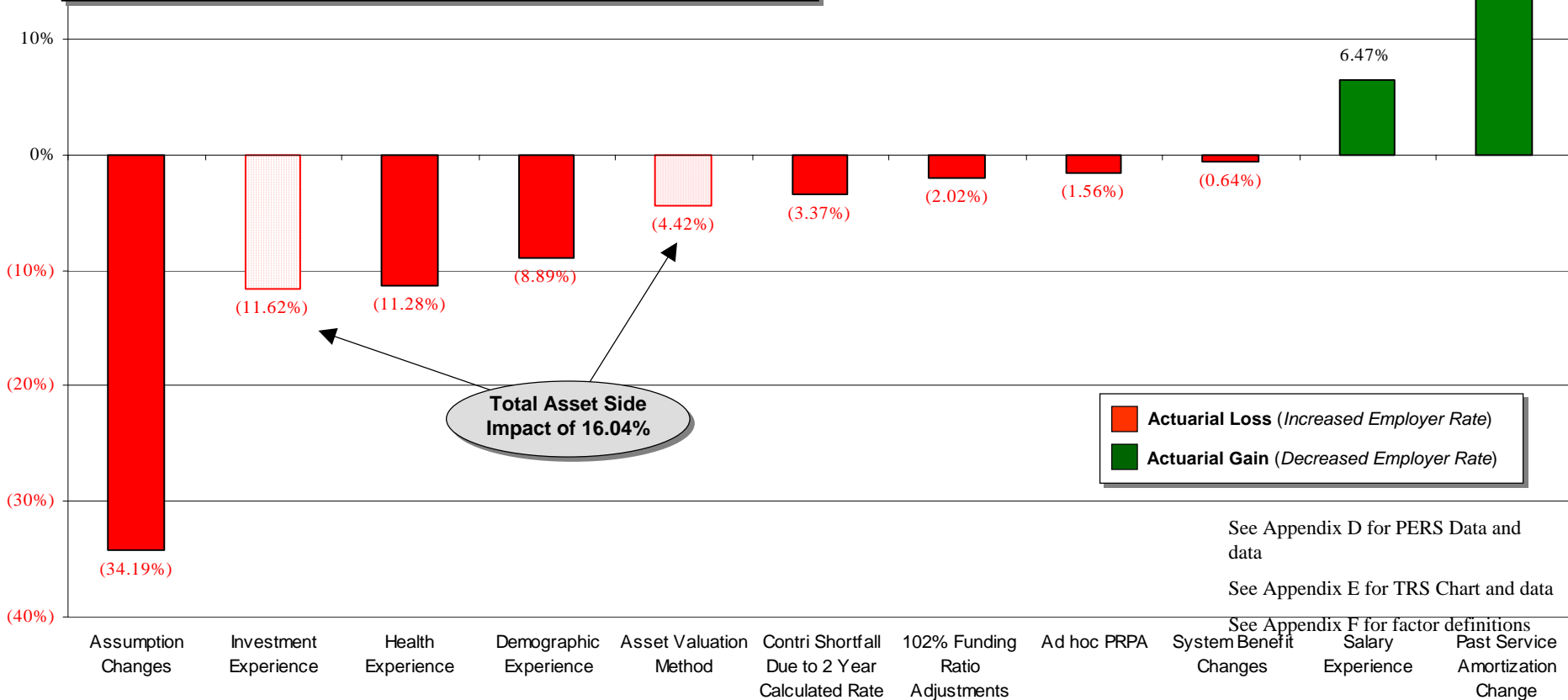
See Appendix C for Data

- Inaccurate assumptions
- Historical understatement of system liabilities
- Rising health costs
- 3-yr bear market
- Declining interest rates
- Unfavorable demographic changes
- Timing of the recognition of market losses
- Artificially low contribution rates in good times
- Legislation that has increased benefits
- Awarding of Post Pension Retirement Adjustments

A Combination of Factors Created Our Present Situation

Factors Contributing to PERS Employer Rate Increase*

(% of Cumulative 1998 to 2003 Rate Increase Attributed to Each Factor)



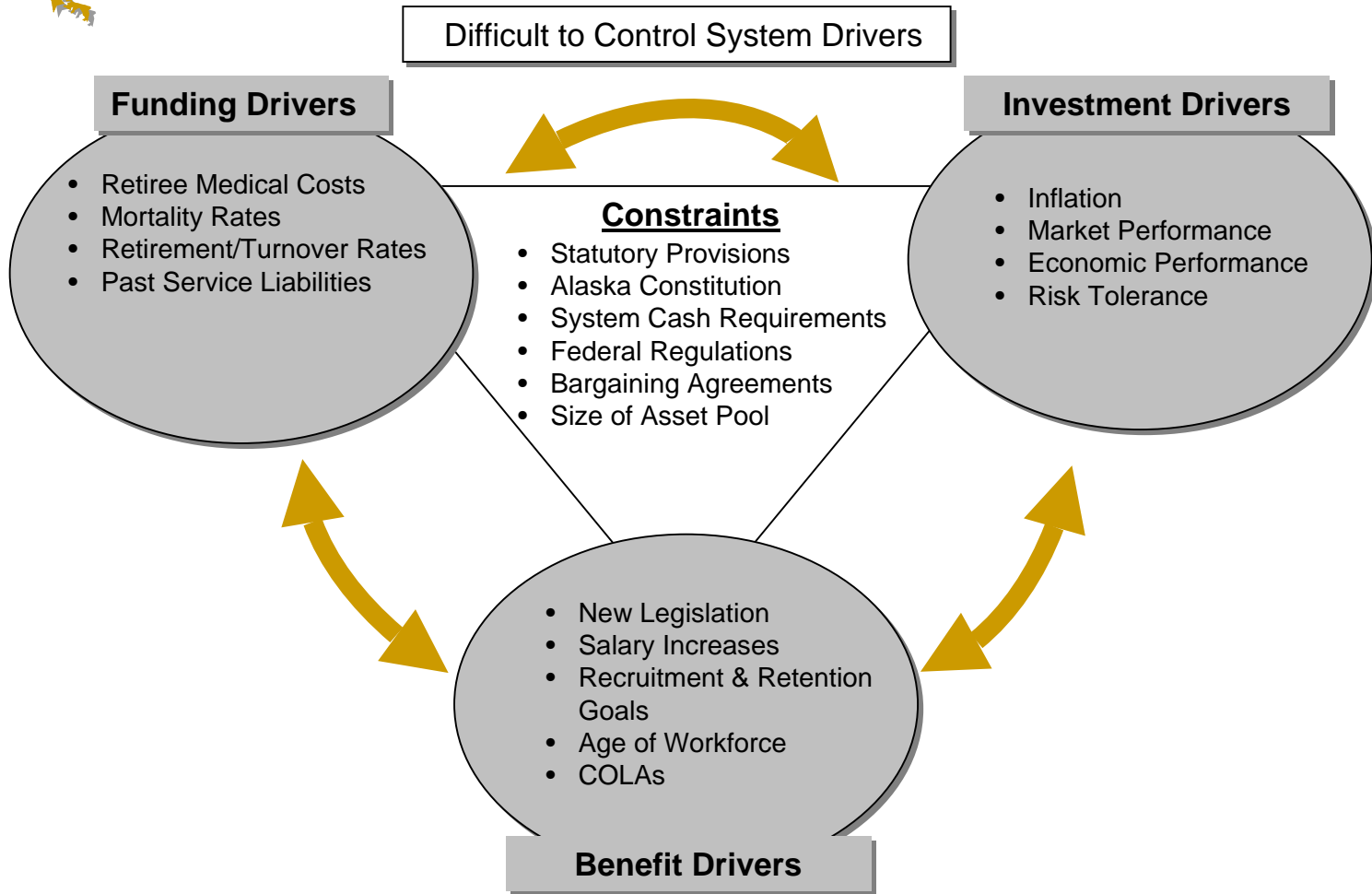
See Appendix D for PERS Data and data

See Appendix E for TRS Chart and data

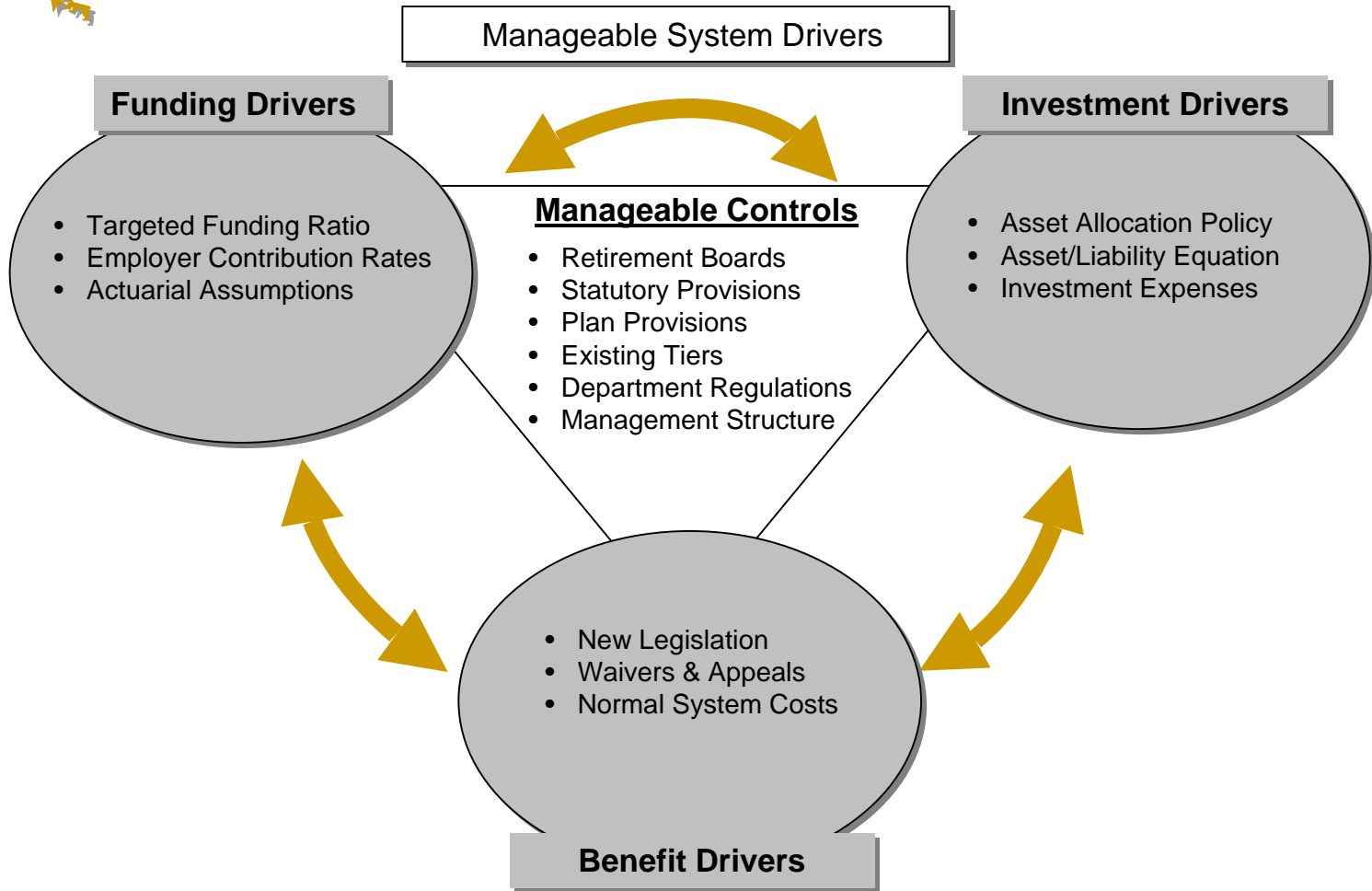
See Appendix F for factor definitions

* PERS Employer Rate increased 18.3% from 7.36% in 1998 to 25.63% in 2003

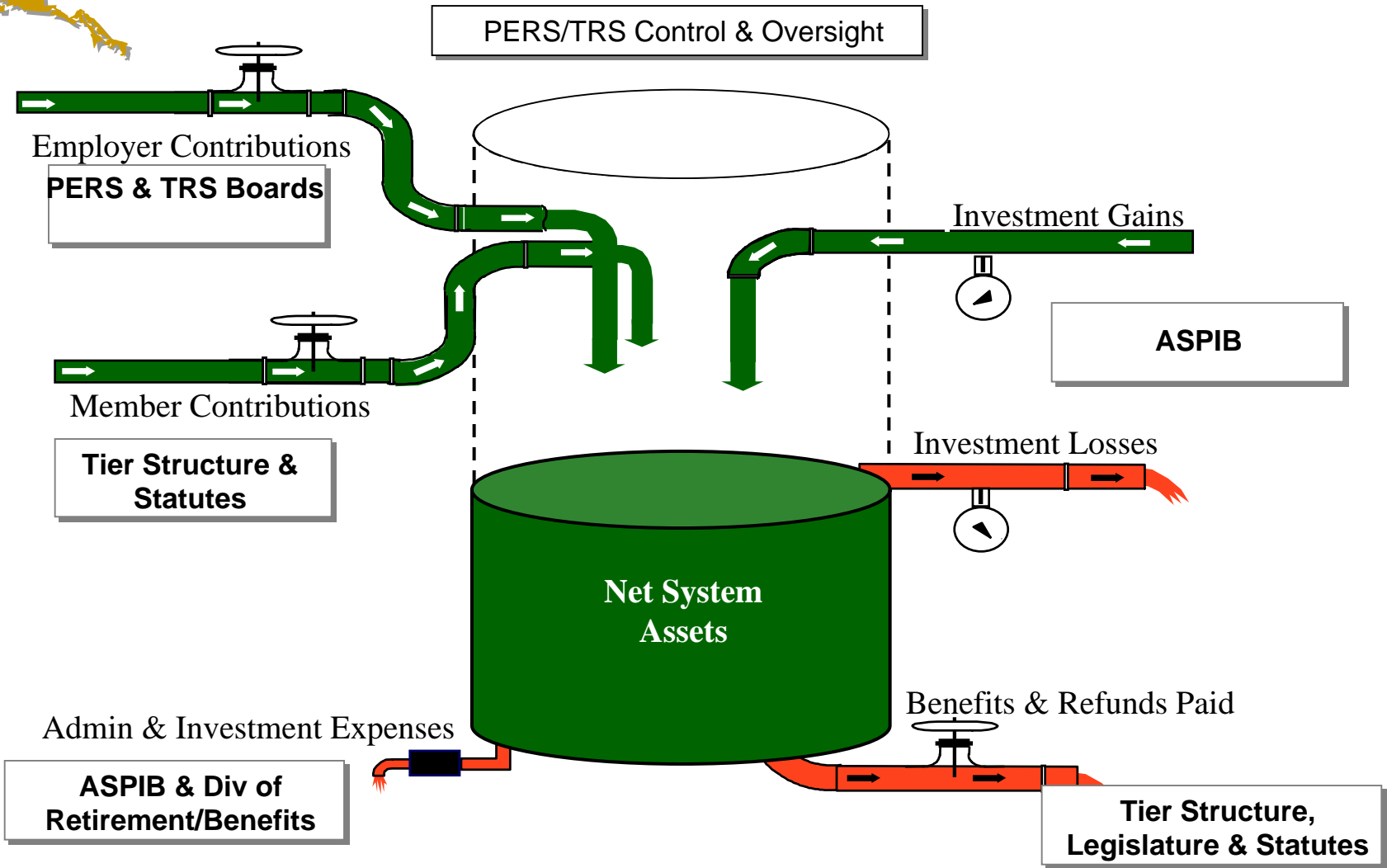
A Combination of Factors Created Our Present Situation



Financial & Economic Drivers are Hard To Predict and Difficult to Control

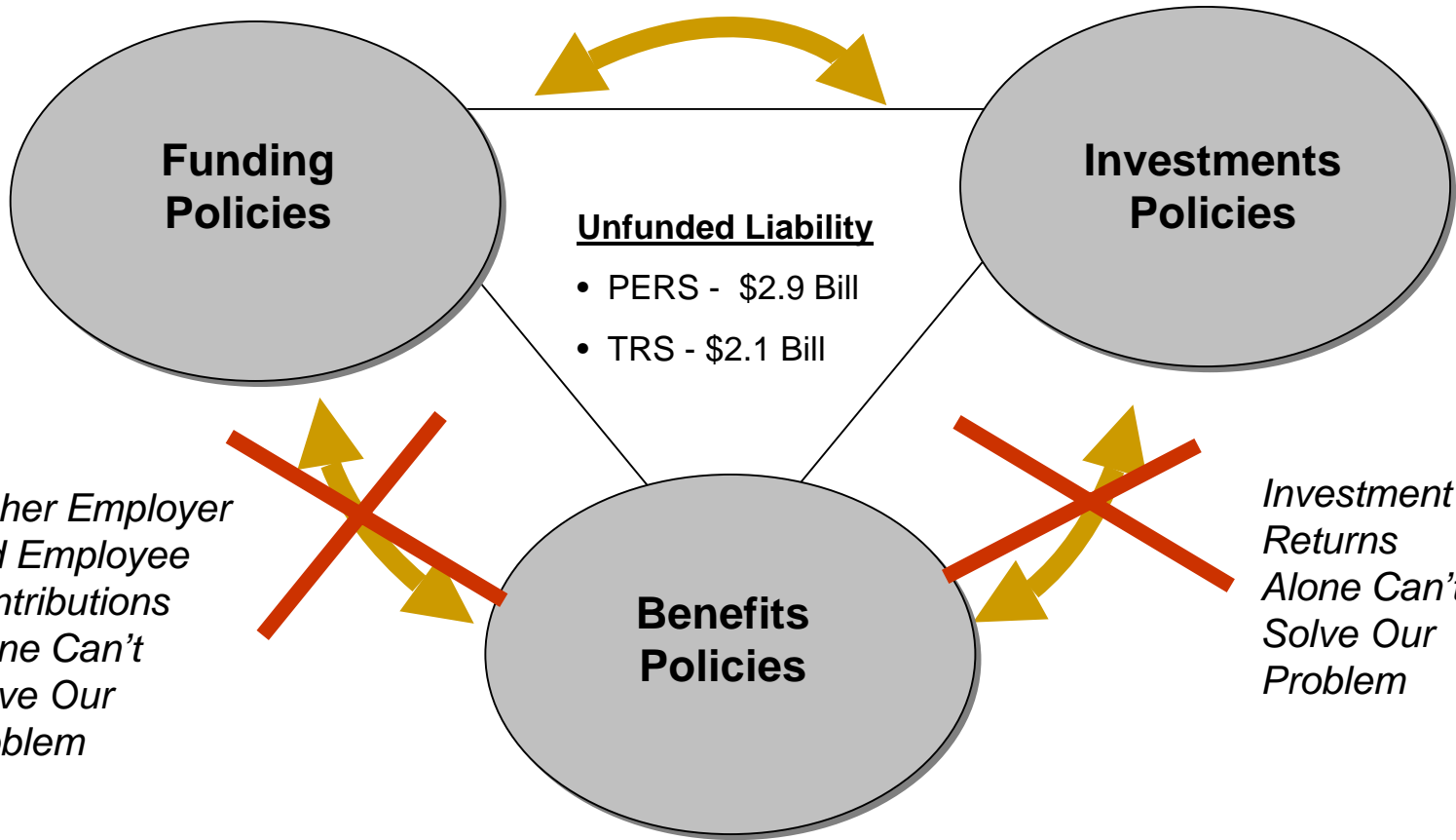


Parts of The System Can...and Should.... be Better Managed



Responsibility & Oversight is Fragmented Among Different Entities





*See Appendix G for Projected PERS/TRS Contribution Rates

Current Funding & Investment Policies Can't Support Our Benefits Policy



Important Conclusions

- System assets and liabilities must be jointly managed
- System volatility needs to be reduced
- Cost predictability and controls must be improved
- Employer contribution rates must be stabilized
- Sources of new liability must be eliminated
- Liability growth must be contained
- Existing liability must be reduced

SB 141 Overview

The Retirement Security Act will

- Strengthen Management & Fiduciary Oversight
- Improve Our Ability to Predict and Control Costs
- Constrain the Growth of the Unfunded Liability
- Provide Near Term Financial Relief to Employers
- Pave the Way For Developing a Long-term Financial Fix

While still maintaining our principle objectives of

- Ensuring the Solvency of Alaska's Retirement System
- Maintaining the Attractiveness of Public Sector Employment
- Recruiting and Retaining Talent

RSA Improves the Long-term Health and Security of Our Retirement System

SB 141 – Key Elements:

- Establishes a Defined Contribution (DC) Plan, Retiree Medical Benefit and Health Reimbursement arrangement for new employees
- Replaces the existing boards (PERS, TRS, ASPIB) with a new 9-member Alaska Retirement Management Board (ARMB)
- Establishes ARMB's role to balance system assets with liabilities
- Transfers the quasi-judicial responsibility for hearing appeals to the Office of Administrative Hearings
- Transfers to the Commissioner of Administration responsibility for adopting system regulations and reviewing waiver requests
- Sets the actuarially computed Normal Cost Rate as the floor for annual employer contribution rates

SB 141 is a Complete Solution to the Systemic Problems in PERS/TRS

SB 141 Walk Through

To be picked up March 17th, 2005





Appendix



Funding Ratios (Total Benefits)

Year	TRS Funding Ratio	PERS Funding Ratio	Year	TRS Funding Ratio	PERS Funding Ratio
1975	61.0%	61.0%	'90	88.0%	97.0%
'76	55.0%	64.0%	'91	86.0%	88.0%
'77	63.0%	66.0%	'92	90.0%	91.0%
'78	67.0%	69.0%	'93	93.0%	95.0%
'79	72.0%	68.0%	'94	89.6%	94.8%
'80	67.0%	71.0%	'95	90.9%	96.5%
'81	79.0%	82.0%	'96	97.2%	105.8%
'82	77.0%	79.0%	'97	94.0%	106.3%
'83	80.0%	85.0%	'98	97.7%	105.9%
'84	84.0%	88.0%	'99	102.5%	105.5%
'85	82.0%	94.0%	2000	99.6%	101.1%
'86	93.0%	102.0%	'01	95.0%	100.9%
'87	101.0%	100.0%	'02	68.2%	75.2%
'88	99.0%	93.0%	'03	64.3%	72.8%
'89	95.0%	92.0%			

Summary of Accrued Assets and Liabilities - PERS

Valuation Date	Accrued Liability (000's)	Valuation Assets (000's)	Surplus Actuarial (000's)	Market Value Asstes (000's)	Surplus Market (000's)	Funding Ratio	
						Actuarial Value of Assets	Market Value of Assets
June 30, 2003	10,561,653	7,687,281	(2,874,372)	7,391,455	(3,170,198)	72.8%	70.0%
June 30, 2002	9,859,591	7,412,833	(2,446,758)	7,412,833	(2,446,758)	75.2%	75.2%
June 30, 2001	7,868,574	7,941,756	73,182	8,088,382	219,808	100.9%	102.8%
June 30, 2000	7,376,912	7,454,758	77,846	8,756,580	1,379,668	101.1%	118.7%
June 30, 1999	6,648,673	7,016,340	367,667	8,105,358	1,456,685	105.5%	121.9%
June 30, 1998	6,203,991	6,571,562	367,571	7,438,398	1,234,407	105.9%	119.9%
June 30, 1997	5,534,116	5,885,488	351,372	6,566,155	1,032,039	106.3%	118.6%
June 30, 1996	4,979,958	5,271,253	291,295	5,567,721	587,763	105.8%	111.8%
June 30, 1995	4,971,172	4,794,754	(176,418)	4,876,808	(94,364)	96.5%	98.1%
June 30, 1994	4,620,182	4,379,305	(240,877)	4,177,013	(443,169)	94.8%	90.4%

Summary of Accrued Assets and Liabilities - TRS

Valuation Date	Accrued Liability (000's)	Valuation Assets (000's)	Surplus Actuarial (000's)	Market Value Asstes (000's)	Surplus Market (000's)	Funding Ratio	
						Actuarial Value of Assets	Market Value of Assets
June 30, 2003	5,835,609	3,752,285	(2,083,324)	3,602,619	(2,232,990)	64.3%	61.7%
June 30, 2002	5,411,642	3,689,036	(1,722,606)	3,689,036	(1,722,606)	68.2%	68.2%
June 30, 2001	4,603,147	4,372,229	(230,918)	4,086,848	(516,299)	95.0%	88.8%
June 30, 2000	4,198,868	4,184,015	(14,853)	4,484,902	286,034	99.6%	106.8%
June 30, 1999	3,720,954	3,815,633	94,679	4,204,019	483,065	102.5%	113.0%
June 30, 1998	3,528,757	3,446,070	(82,687)	3,915,235	386,478	97.7%	111.0%
June 30, 1997	3,320,069	3,120,044	(200,025)	3,492,071	172,002	94.0%	105.2%
June 30, 1996	2,940,437	2,858,756	(81,681)	3,030,644	90,207	97.2%	103.1%
June 30, 1995	2,913,467	2,647,392	(266,075)	2,688,451	(225,016)	90.9%	92.3%
June 30, 1994	2,761,409	2,472,957	(288,452)	2,351,719	(409,690)	89.6%	85.2%

State of Alaska PERS & TRS Combined

Financial Projections ('000 omitted)

Total Assets

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2003	Actual
										Projection	Growth	
1994	6,852,262	7,403,413	7,962,757	8,540,481	9,126,369	9,718,047	10,310,885	10,908,394	11,504,225	12,094,355	6.52%	
1995		7,442,146	7,991,239	8,552,339	9,121,335	9,696,836	10,275,690	10,855,836	11,438,471	12,018,413	6.17%	8.61%
1996			8,130,009	8,746,883	9,390,408	9,932,211	10,467,611	10,991,735	11,524,613	12,068,061	5.81%	8.93%
1997				9,005,532	9,553,907	10,127,253	10,710,618	11,295,186	11,880,566	12,471,231	5.58%	9.54%
1998					10,017,632	10,573,292	11,151,933	11,748,209	12,340,047	12,935,217	5.25%	9.96%
1999						10,831,973	11,402,246	12,011,278	12,619,155	13,215,400	5.10%	9.59%
2000							11,638,773	12,291,658	12,949,182	13,600,013	5.33%	9.23%
2001								12,313,985	12,947,946	13,600,150	5.09%	8.73%
2002									11,101,869	11,493,903	3.53%	6.22%
2003										11,439,566		5.86%
2004												

Total Liabilities

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2003	Actual
										Projection	Growth	
1994	\$7,381,591	\$7,939,650	\$8,521,560	\$9,115,400	\$9,716,804	\$10,324,287	\$10,939,115	\$11,553,458	\$12,164,713	\$12,770,934	6.28%	
1995		\$7,884,639	\$8,456,536	\$9,048,884	\$9,650,517	\$10,259,243	\$10,870,257	\$11,487,771	\$12,100,792	\$12,707,516	6.15%	6.81%
1996			\$7,920,395	\$8,487,521	\$9,077,740	\$9,682,606	\$10,296,517	\$10,917,084	\$11,537,170	\$12,158,936	6.31%	3.59%
1997				\$8,854,185	\$9,431,123	\$10,041,501	\$10,664,838	\$11,267,255	\$11,878,841	\$12,495,041	5.91%	6.25%
1998					\$9,732,748	\$10,300,514	\$10,908,027	\$11,516,013	\$12,105,062	\$12,694,397	5.46%	7.16%
1999						\$10,369,627	\$10,919,801	\$11,530,751	\$12,135,844	\$12,715,143	5.23%	7.03%
2000							\$11,575,780	\$12,225,797	\$12,893,954	\$13,546,251	5.38%	7.79%
2001								\$12,471,721	\$13,052,584	\$13,649,550	4.62%	7.78%
2002									\$15,271,234	\$16,045,872	5.07%	9.51%
2003										\$16,397,262		9.27%
2004											5.60%	7.24%

Discount Rate 8.25%
Population Growth 1.00%

Analysis of Valuation

Cumulative Change in Average Employer Contribution Rate

1998 through 2003

Type of Gain or Loss	Impact Years	PERS		
		Weighted Absolute Change	Absolute Change 1998-2003	Payroll Impact (000's)
Assumption Changes	1998, 2000, 2002	(34.19%)	11.15%	\$ (77,050)
Investment Experience	All	(11.62%)	3.79%	\$ (26,190)
Health Experience	2002	(11.28%)	3.68%	\$ (25,430)
Demographic Experience	All	(8.89%)	2.90%	\$ (20,040)
Asset Valuation Method	2000, 2002	(4.42%)	1.44%	\$ (9,951)
Contri Shortfall Due to 2 Year Calculated Rate	2003	(3.37%)	1.10%	\$ (7,601)
102% Funding Ratio Adjustments	1998, 2001, 2003	(2.02%)	0.66%	\$ (4,561)
Ad hoc PRPA	1998 thru 2002	(1.56%)	0.51%	\$ (3,524)
System Benefit Changes	2001, 2002	(0.64%)	0.21%	\$ (1,451)
Salary Experience	All but 2000	6.47%	2.11%	\$ 14,581
Past Service Amortization Change	2002	15.52%	5.06%	\$ 34,966
		100.00%	32.61%	\$ 225,344

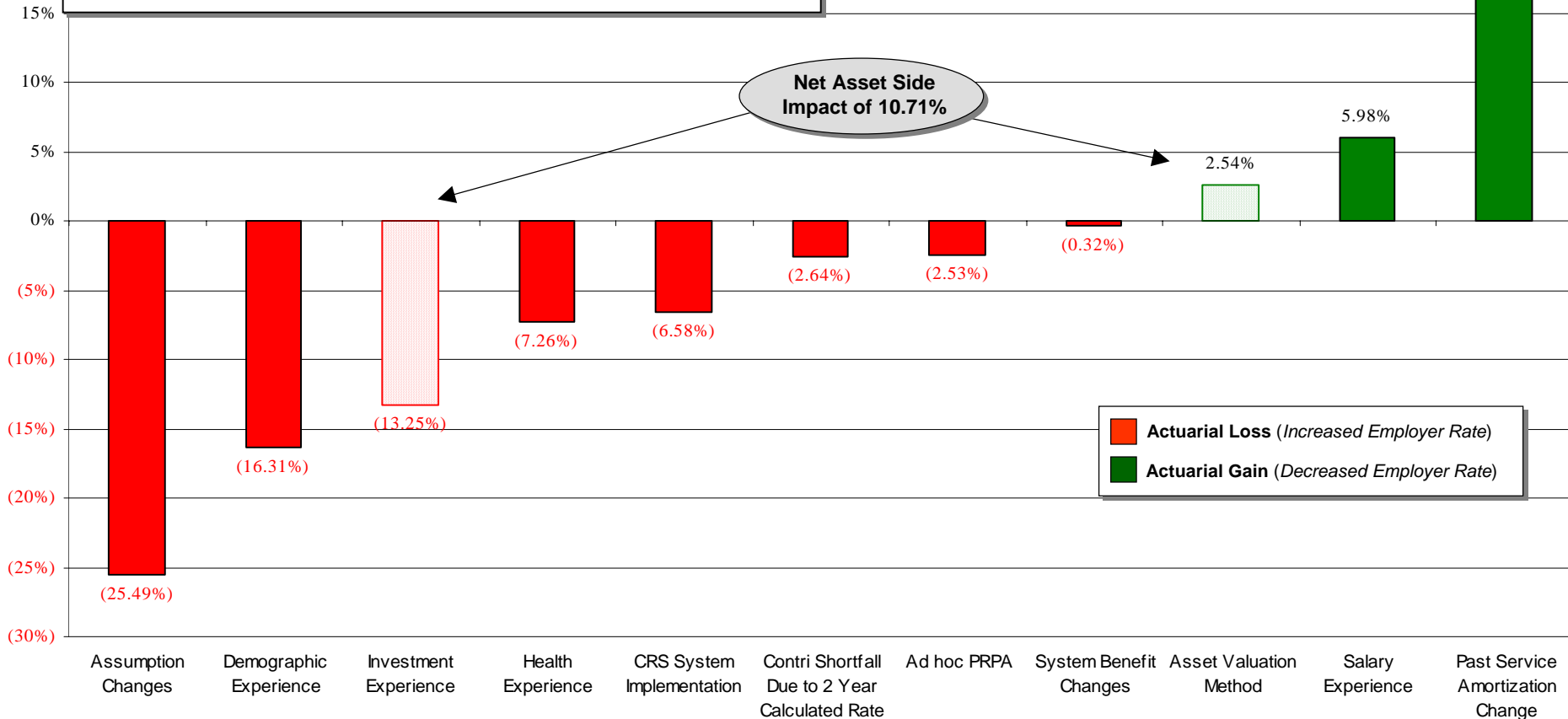
PERS Analysis of Valuation
 Cumulative Change in Average Employer Contribution Rate
 1998 to 2003

Type of Gain or Loss (as of June 30)	Weighted Absolute Change	Absolute Change	Total	2004	2003	2002	2001	2000	1999	1998
Health Experience	11.28%	3.68%	3.68%		0.00%	3.68%	0.00%	0.00%	0.00%	0.00%
Salary Experience	6.47%	2.11%	(2.11%)		(0.19%)	(0.20%)	(1.03%)	0.00%	(0.23%)	(0.46%)
Investment Experience	11.62%	3.79%	3.79%		0.31%	7.24%	0.11%	(0.12%)	(0.49%)	(3.26%)
Demographic Experience	8.89%	2.90%	2.90%		0.40%	1.21%	0.77%	(0.81%)	0.21%	1.12%
Net Gains & Loss Due to Experience			8.26%	0.00%	0.52%	11.93%	(0.15%)	(0.93%)	(0.51%)	(2.60%)
Asset Valuation Method	4.42%	1.44%	1.44%		0.00%	4.11%	0.00%	(2.67%)	0.00%	0.00%
102% Funding Ratio Adjustments	2.02%	0.66%	0.66%		(0.90%)	0.00%	0.57%	0.00%	0.00%	0.99%
Past Service Amortization Change	15.52%	5.06%	(5.06%)		0.00%	(5.06%)	0.00%	0.00%	0.00%	0.00%
Contribution Shortfall compared to average										
Employer Calculated rate	3.37%	1.10%	1.10%		1.10%					
Assumption Changes	34.19%	11.15%	11.15%		0.00%	6.98%	0.00%	3.09%	0.00%	1.08%
System Benefit Changes	0.64%	0.21%	0.21%		0.00%	0.04%	0.17%	0.00%	0.00%	0.00%
Ad hoc PRPA	1.56%	0.51%	0.51%		0.00%	0.14%	0.06%	0.07%	0.04%	0.20%
Total Non-Recurring Changes	100.00%	32.61%	10.01%	0.00%	0.20%	6.21%	0.80%	0.49%	0.04%	2.27%
Composite (Gain) or Loss During Year				0.00%	0.72%	18.14%	0.65%	(0.44%)	(0.47%)	(0.33%)
Beginning Average Employer Contribution Rate				25.63%	24.91%	6.77%	6.12%	6.56%	7.03%	7.36%
Ending Average Employer Contribution Rate				25.63%	25.63%	24.91%	6.77%	6.12%	6.56%	7.03%
Annual Payroll (000's)					1460783	1402686	1360401	1321480	1283549	1235439
Annual Contribution					363881	94962	83257	86689	90233	90928
Yr to Yr Change					268919	11705	-3433	-3544	-695	

(1)

Factors Contributing to TRS Employer Rate Increase*

(% of Cumulative 1998 to 2003 Rate Increase Attributed to Each Factor)



* TRS Employer Rate increased 25.85% from 13.0% in 1998 to 38.85% in 2003

A Combination of Factors Created Our Present Situation

Analysis of Valuation

Cumulative Change in Average Employer Contribution Rate 1998 through 2003

Type of Gain or Loss	Impact Years	TRS		
		Weighted Absolute Change	Absolute Change 1998-2003	Payroll Impact (000's)
Assumption Changes	2000, 2002	(25.49%)	13.52%	\$ (16,106)
Demographic Experience	All	(16.31%)	8.65%	\$ (10,305)
Investment Experience	All	(13.25%)	7.03%	\$ (8,375)
Health Experience	2002	(7.26%)	3.85%	\$ (4,586)
CRS System Implementation	2001	(6.58%)	3.49%	\$ (4,158)
Contri Shortfall Due to 2 Year Calculated Rate	2003	(2.64%)	1.40%	\$ (1,668)
Ad hoc PRPA	1998 thru 2002	(2.53%)	1.34%	\$ (1,596)
System Benefit Changes	2001	(0.32%)	0.17%	\$ (203)
Asset Valuation Method	2000, 2002	2.54%	1.35%	\$ 1,608
Salary Experience	All but 2002	5.98%	3.17%	\$ 3,776
Past Service Amortization Change	2002	17.12%	9.08%	\$ 10,817
		100.00%	53.05%	\$ 63,197

TRS Analysis of Valuation
 Cumulative Change in Average Employer Contribution Rate
 1998 to 2003

Type of Gain or Loss (as of June 30)	Weighted Absolute Change	Absolute Change	Total	2004	2003	2002	2001	2000	1999	1998
Health Experience	7.26%	3.85%	3.85%		0.00%	3.85%	0.00%	0.00%	0.00%	0.00%
Salary Experience	5.98%	3.17%	(3.17%)		0.10%	(0.11%)	(1.68%)	0.00%	(0.64%)	(0.84%)
Investment Experience	13.25%	7.03%	7.03%		0.43%	15.03%	1.35%	(3.35%)	(3.73%)	(2.70%)
Demographic Experience	16.31%	8.65%	8.65%		1.35%	4.21%	2.66%	(0.91%)	0.80%	0.54%
Net Gains & Loss Due to Experience			16.36%	0.00%	1.88%	22.98%	2.33%	(4.26%)	(3.57%)	(3.00%)
Asset Valuation Method	2.54%	1.35%	(1.35%)		0.00%	0.03%	0.00%	(1.38%)	0.00%	0.00%
CRS System Implementation	6.58%	3.49%	3.49%		0.00%	0.00%	3.49%	0.00%	0.00%	0.00%
Past Service Amortization Change	17.12%	9.08%	(9.08%)		0.00%	(9.08%)	0.00%	0.00%	0.00%	0.00%
Contribution Shortfall compared to average										
Employer Calculated rate	2.64%	1.40%	1.40%		1.40%					
Assumption Changes	25.49%	13.52%	13.52%		0.00%	6.84%	0.00%	6.68%	0.00%	0.00%
System Benefit Changes	0.32%	0.17%	0.17%		0.00%	0.00%	0.17%	0.00%	0.00%	0.00%
Ad hoc PRPA	2.53%	1.34%	1.34%		0.00%	0.36%	0.16%	0.16%	0.11%	0.55%
Total Non-Recurring Changes	100.00%	53.05%	9.49%	0.00%	1.40%	(1.85%)	3.82%	5.46%	0.11%	0.55%
Composite (Gain) or Loss During Year				0.00%	3.28%	21.13%	6.15%	1.20%	(3.46%)	(2.45%)
Beginning Average Employer Contribution Rate				38.85%	35.57%	14.44%	8.29%	7.09%	10.55%	13.00%
Ending Average Employer Contribution Rate				38.85%	38.85%	35.57%	14.44%	8.29%	7.09%	10.55%
Annual Payroll (000's)					532630	509437	496188	482571	466414	469433
Annual Contribution					189456	73563	41134	34214	49207	61026
Yr to Yr Change					115894	32429	6920	-14992	-11820	

Assumptions:

Demographic Assumptions *Relate to the plan’s populations and how they are expected to change over time*

Total Turnover Rate	Disability Rate
Retirement Rates	Assumed Retirement Date if Before Age 50
Mortality Rates	

Economic Assumptions *Relate to the expected long-term financial experience of the plan*

Total Inflation	Annual investment return
Annual Salary Increases	Post Retirement Health Premium Trend

Actuarial Assumptions *In addition to Demographic and Economic Assumptions, the following additional assumptions are inputs in the actuarial analysis*

Target Funding Ratio	COLA – % of retirees receiving
Spouse’s Age	Dependent Children
Contribution Refund Rates	New entrants
Post-Pension Retirement Adjustments	Expenses
Marital Status	

Assumption Changes:

As a result of a 2000 experience study in which system experience was compared to actuarial assumptions, a new set of assumptions was adopted in December of 2000. The net effect of the change resulted in an actuarial loss of 3.09% in PERS and 6.68% in TRS.

As a result of the 2002 Actuarial Audit performed by Milliman USA, a new set of actuarial assumptions were adopted effective June 30, 2002. Assumption changes included Health Cost Trends, Mortality, % of Retirees receiving COLA, Turnover Rates, Assumed Retirement Ages. For 2002, changes in the health cost trend assumption only, resulted in an actuarial loss in TRS of 6.84% and in PERS by 6.98%.



Investment Experience:

Adjustments as a result of differences between assumed investment results and actual investment experience (results).

In 2002, the board changed the asset valuation method and immediately recognized all deferred losses. This resulted in an actuarial loss in PERS of 7.24% and in TRS of 15.03%.

Health Experience:

Adjustments as a result of differences between assumed health expenses and actual health experience (costs).

On June 30, 2002, the assumed total blended Health premium was reset to the actual total blended premium for FY03. The resetting increased the total employer contribution rate by 3.85% in TRS and 3.68% in PERS. Going forward, the difference between the assumed rate and the actual rate will be tracked annually and reduced if the gap becomes to wide.

Demographic Experience:

Adjustments as a result of comparing assumptions about the demographic statistics (i.e. population) of the system, with the actual statistics. Factors include - number of active participants, average age of participants, average credited service, number of beneficiaries, number of vested/terminated, etc.

CRS System Implementation:

The Div of Retirement & Benefits implemented a new administrative system (CRS) in 2000 for TRS . The new system provides more accurate data to be used in the annual actuarial valuations. Due to the differences in the data between the old and new systems, there were one-time data adjustments which affected the liabilities calculated for the System. The net effect of these changes was to increase the 2001 employer contribution rate in TRS by 3.49%.

Contribution Shortfall:

2003: An average employer calculated rate are determined 2 years prior to the fiscal year. So the 2003 valuation is setting the FY05 and FY06 rates. When the next year's valuation is finished, the difference between the new calculated rate and the one from the year prior determines the shortfall.



Asset Valuation Method:PERS:

Prior to 2002, in developing asset valuations, PERS used what's called the corridor method. Investment returns are expected to be equal to the investment assumption of 8.25%. The valuation assets, plus (minus) the outstanding balance of previously amortized amounts, are then compared to a 5% corridor around the market value of assets. Any amount outside the corridor is amortized and applied to the employer contribution rates as a level percentage of the present value of pay over 20 years under the 1% population scenario. For 2000, recognition of additional investment gains outside the corridor resulted in an actuarial gain of 2.67%.

Effective June 30, 2002 - As a result of the Actuarial Audit performed by Milliman USA in 2002, the Board adopted a new asset valuation method. This new smoothing method - recognizes 20% of the investment gain or loss in each of the current and preceding four years. This method is being phased in over the next five years. Due to this change, the accumulated adjustment from the corridor method is now included in the amortization of the unfunded liability. Elimination of the corridor adjustment created a 2002 actuarial loss of 4.11% in PERS.

TRS:

Prior to 2000, in developing asset valuations, TRS used a smoothing technique to smooth over five years the difference between actual and expected return. One purpose was to adopt a method which better accomplished the goal of smoothing volatility in investment returns.

Beginning in 2000, TRS began using the corridor method instead of the smoothing method. The corridor adjustment for 2000 resulted in an actuarial gain of 1.38%.

Effective June 30, 2002 - As a result of the Actuarial Audit performed by Miliman USA in 2002, the Board adopted a new asset valuation method. This new smoothing method - recognizes 20% of the investment gain or loss in each of the current and preceding four years. This method is being phased in over the next five years. Due to this change, the accumulated adjustment from the corridor method is now included in the amortization of the unfunded liability. Elimination of the corridor adjustment created a 2002 actuarial loss of .03% in TRS.

102% Funding Ratio Adjustments:

1998: PERS Board adopted an actuarial method that would target an ultimate funding ratio of 102%. An adjustment is made to the current and projected unfunded accrued liability so that the projected employer contributions to the System will result in an ultimate funding ratio of 102%. The 1998 adjustment created an actuarial loss of 0.99%.

2001: The adjustment for the 102% Target Funding Ratio created an actuarial loss of 0.57%

2003: Effective June 30, 2003, the PERS Board eliminated the requirement that the average employer contribution rate be calculated based on 102% of the system's accrued liability and instead adopted a target ratio of 100%. The change created an actuarial gain of 0.90%.

Ad hoc PRPA

1998: An ad hoc Post Retirement Pension Adjustment (PRPA) was granted which increased benefit payments to many Tier I (hired before July 1, 1990) retirees and producing an actuarial loss to TRS of approx. \$28,954,000 and PERS of \$28,204,000.

1999: An ad hoc PRPA was granted producing an actuarial loss to TRS of \$5,681,000/PERS of \$6,084,000

2000: An ad hoc PRPA was granted producing an actuarial loss to TRS of \$8,410,000 & PERS of \$9,495,000

2001: An ad hoc PRPA was granted producing an actuarial loss to TRS of \$8,226,000 & PERS of \$8,897,000

2002: An ad hoc PRPA was granted producing an actuarial loss to TRS of \$19,456,000 & PERS of \$20,105,000

System Benefit Changes:

2001 - TRS/PERS - Effective June 30, 2001, all retired member over age 60 and all members who retire with at least twenty-five years of membership service become eligible for full System-paid post employment healthcare benefits, regardless of hire date.

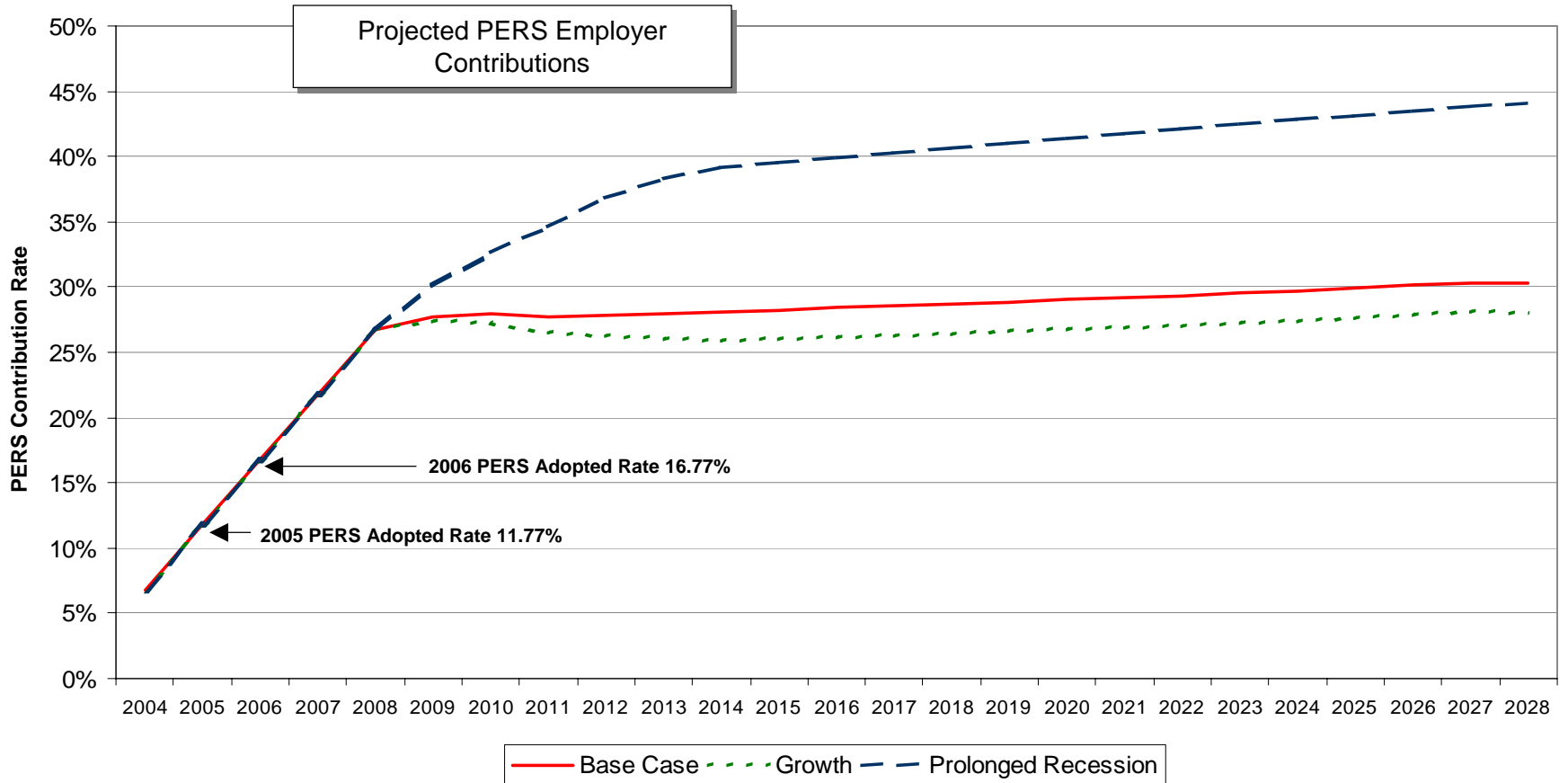
2002 - PERS - Effective June 30, 2002: For all Police/Fire member, the number of years for calculation of average monthly compensation is now 3 years; the occupational death benefit for survivors of Police/Fire members is not the greater of 50% of the member's final salary or 75% of the normal retirement benefit the member would have earned had the member survived to normal retirement age; upon reaching normal retirement age, a disabled Police/Fire member now receives the greater of his/her disability benefit or his/her normal retirement benefit.

Salary Experience:

Adjustments as a result of differences between assumed salary increases and actual salary experience. For both PERS and TRS, salary increases over the past several years have been less than anticipated which has resulted in net actuarial gains to both systems.

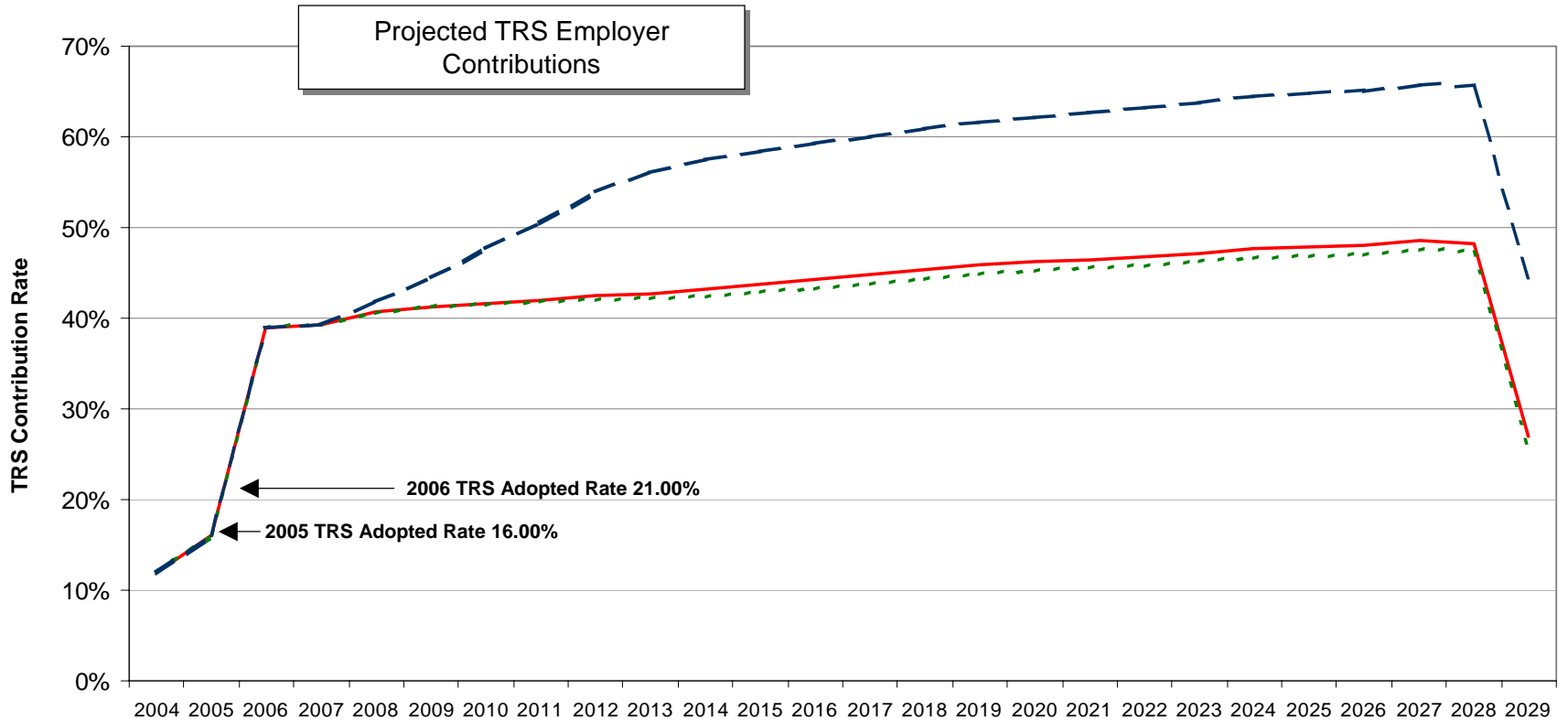
Past Service Amortization Change:

As a result of the 2002 Actuarial Audit performed by Milliman USA in 2002, effective June 30, 2002, the Board adopted a 25-year fixed period level percentage of pay amortization of the Unfunded Accrued Liability. This change is consistent with the 5-year recognition of gains or losses used in the new asset valuation method. The change in the Past Service Amortization methodology caused an actuarial gain in TRS of 9.08% and PERS of 5.06%.



Assuming an Annual Population Increase 1%

To Catch Up, We're Now Facing Untenable Contribution Rates



— Base Case - - - Growth - - - Prolonged Recession

Assuming an Annual Population Increase 1%

To Catch Up, We're Now Facing Untenable Contribution Rates