

IPERS Funding Presentation

Joint Meeting of the State Government Committees
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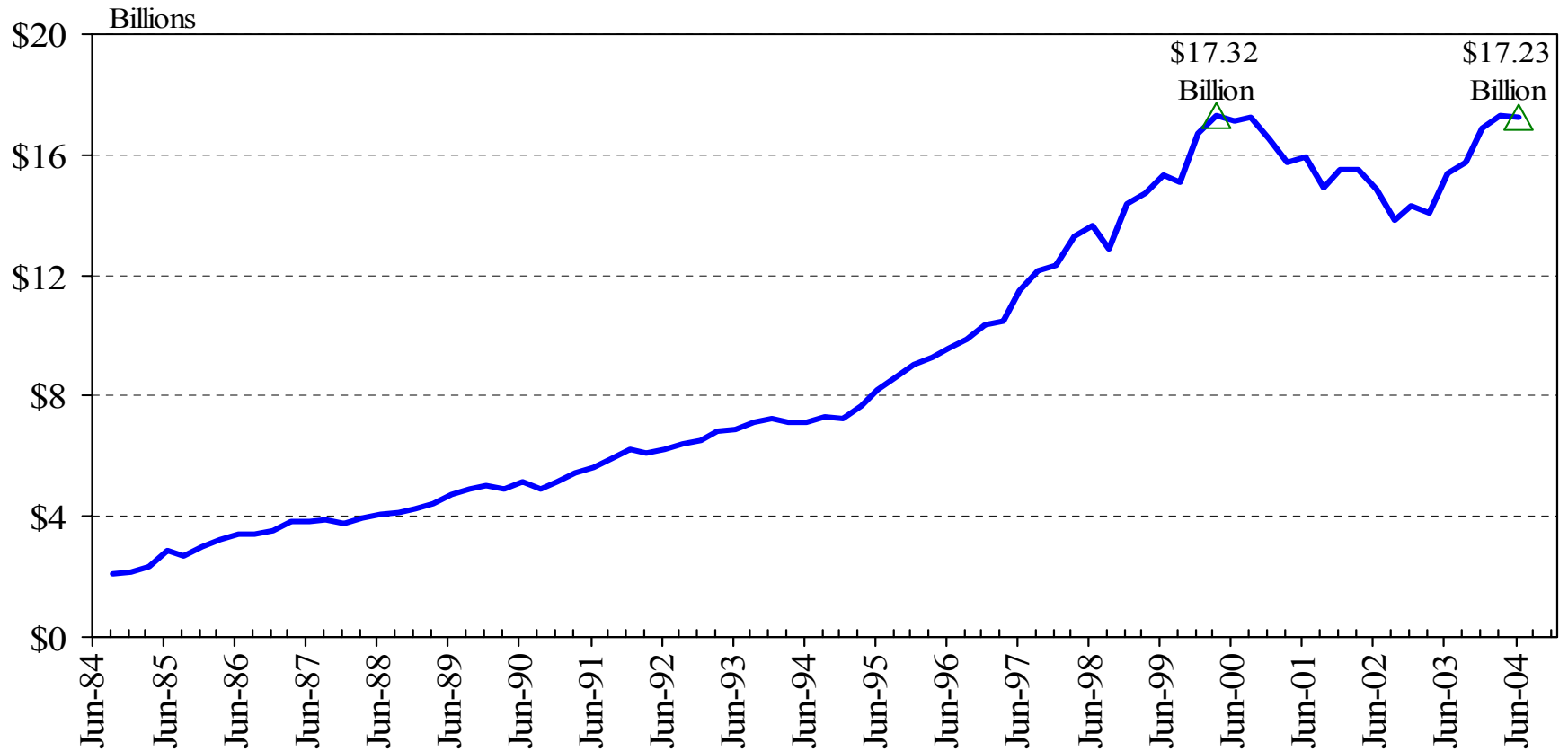
IPERS Fiscal Year Summary

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Fiscal Year	Market Value Assets	Increase (Decrease)	Investment Return (Net of Fees)	Actuarial Value Assets *	Investment Management Expense	Expense % of Market Value	Active Members	Inactive Members	Retired Members	Total Members	Contribution Rate	Admin Expenses	Admin Exp % of Market Value
1981	1,488,848,232		0.91%		NA	NA	133,863	15,527	34,149	183,539	9.45%	1,802,265	0.12%
1982	1,720,086,969	231,238,737	11.26%		NA	NA	129,364	16,197	35,823	181,384	9.45%	1,890,000	0.11%
1983	1,991,658,140	271,571,171	42.67%		NA	NA	128,452	15,563	37,287	181,302	9.45%	2,160,000	0.11%
1984	2,261,614,002	269,955,862	-0.88%		NA	NA	129,832	20,924	39,444	190,200	9.45%	2,350,000	0.10%
1985	2,622,184,082	360,570,080	28.21%		1,279,903	0.05%	128,315	19,187	39,530	187,032	9.45%	1,435,646	0.06%
1986	3,397,750,000	775,565,918	25.16%			0.07%	126,947	19,393	40,459	186,799	9.45%	1,572,111	0.05%
1987	3,806,229,000	408,479,000	11.37%				127,143	19,586	43,103	189,832	9.45%	1,591,631	0.05%
1988	4,002,000,000	195,771,000	5.94%				126,532	16,901	43,398	186,831	9.45%	1,935,580	0.05%
1989	4,636,000,000	634,000,000	14.78%				128,085	17,274	47,194	192,553	9.45%	2,163,905	0.05%
1990	5,106,000,000	470,000,000	8.38%				131,357	17,334	48,533	197,224	9.45%	2,383,365	0.05%
1991	5,596,000,000	490,000,000	8.36%				135,104	21,120	50,082	206,306	9.45%	3,501,116	0.07%
1992	6,225,257,155	629,257,155	9.47%			0.27%	134,485	27,392	51,436	213,313	9.45%	2,445,338	0.04%
1993	6,899,590,868	674,333,713	10.32%			0.85%	136,409	25,949	53,238	215,596	9.45%	3,251,098	0.05%
1994	7,126,124,257	226,533,389	2.85%			0.037%	141,423	62,000	54,401	257,824	9.45%	3,289,949	0.05%
1995	8,199,217,051	1,073,092,794	14.77%			0.19%	144,912	76,351	56,584	277,847	9.45%	3,250,710	0.04%
1996	9,587,104,982	1,387,887,931	16.88%	8,975,396,251	884,775	0.15%	147,431	79,411	57,954	284,796	9.45%	3,409,775	0.04%
1997	11,533,968,923	1,946,863,941	20.51%	10,112,976,077	1,380,143	0.15%	147,736	83,762	59,900	291,398	9.45%	3,828,712	0.03%
1998	13,692,899,832	2,158,930,909	18.18%	11,352,674,142	1,285,406	0.15%	148,917	88,823	62,106	299,846	9.45%	4,012,736	0.03%
1999	15,325,576,009	1,632,676,177	13.18%	12,664,031,455	1,555,214	0.23%	152,991	92,190	64,275	309,456	9.45%	4,620,009	0.03%
2000	17,128,481,291	1,802,905,282	13.05%	14,145,141,455	1,708,690	0.18%	154,612	91,022	66,681	312,315	9.45%	5,865,985	0.03%
2001	15,912,913,854	-1,215,567,437	-4.73%	15,112,424,722	1,425,977	0.26%	154,610	96,105	68,703	319,418	9.45%	7,264,447	0.05%
2002	14,854,018,390	-1,058,895,464	-4.94%	15,613,114,099	1,376,347	0.25%	158,467	98,228	71,715	328,410	9.45%	7,581,105	0.05%
2003	15,375,270,292	521,251,902	5.59%	16,120,476,011	1,299,081	0.21%	159,353	104,208	74,336	337,897	9.45%	8,041,113	0.05%
2004	17,229,666,017	1,854,395,725	13.78%	16,951,942,539	1,312,243	0.19%	160,034	103,049	76,961	340,044	9.45%	7,959,601	0.05%

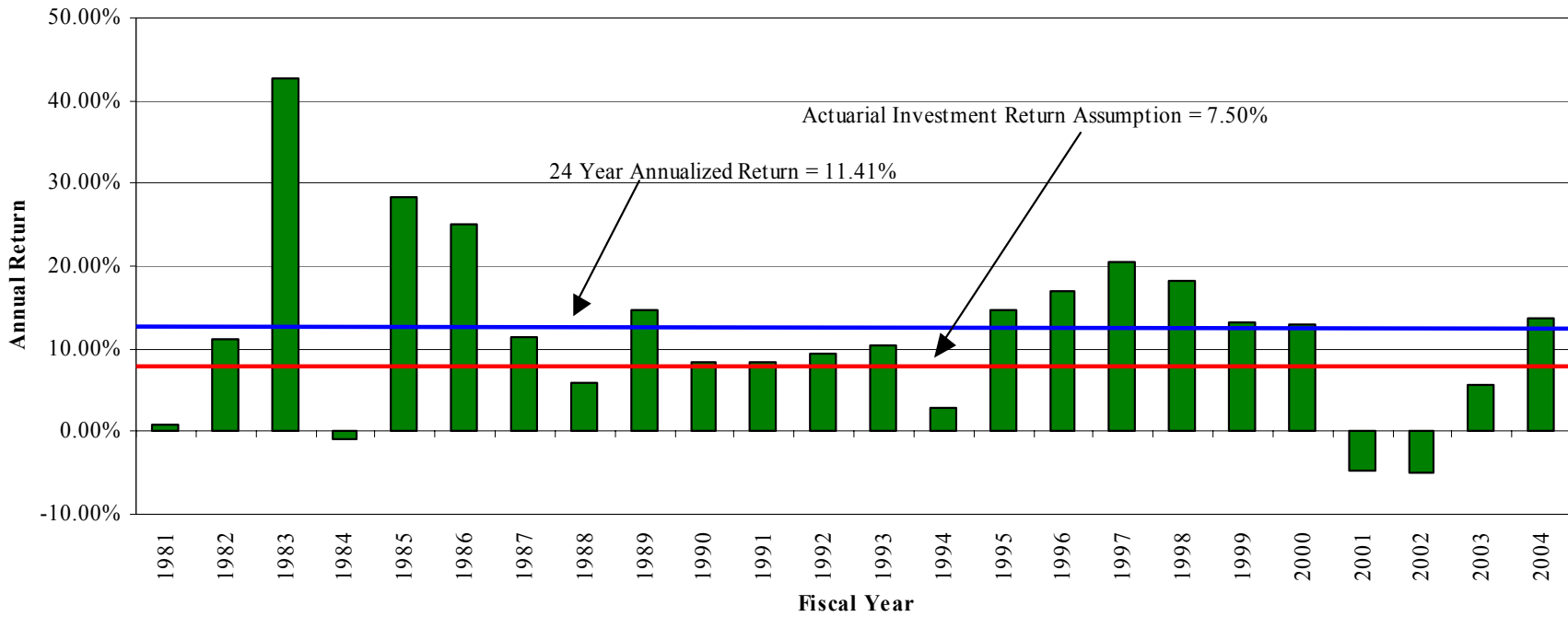
* Actuarial cost valuation changed in 1996

Growth of Net Investment Portfolio Assets

20 Year Historical Summary as of June 30



IPERS' Fiscal Year Investment Returns 1981 - 2004



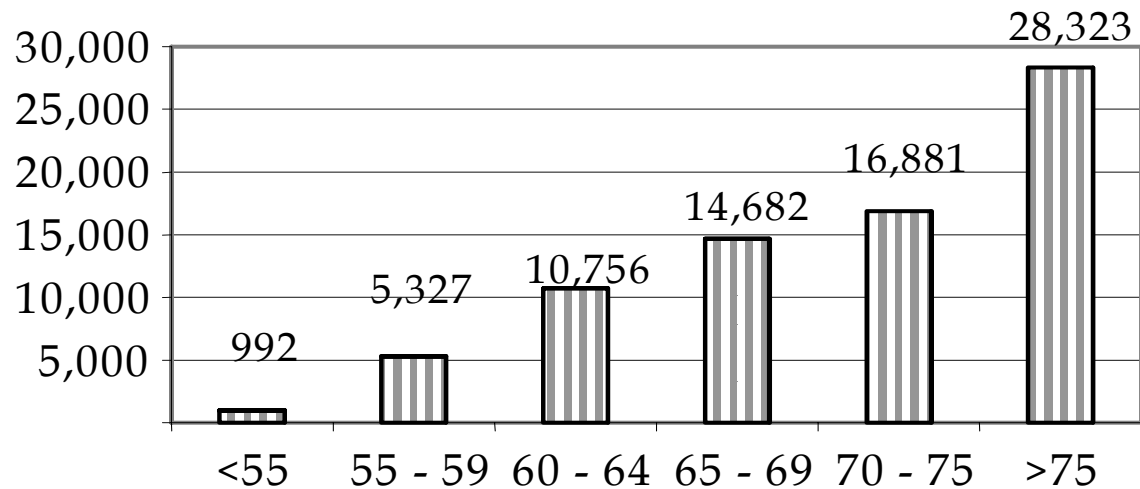
Annualized Returns*

1-Year Return:	13.78%	10-Year Return:	10.27%
3-Year Return:	4.52%	15-Year Return:	9.46%
5-Year Return:	4.23%	20-Year Return:	11.25%

*For periods ending 6/30/04

Retired Members by Age

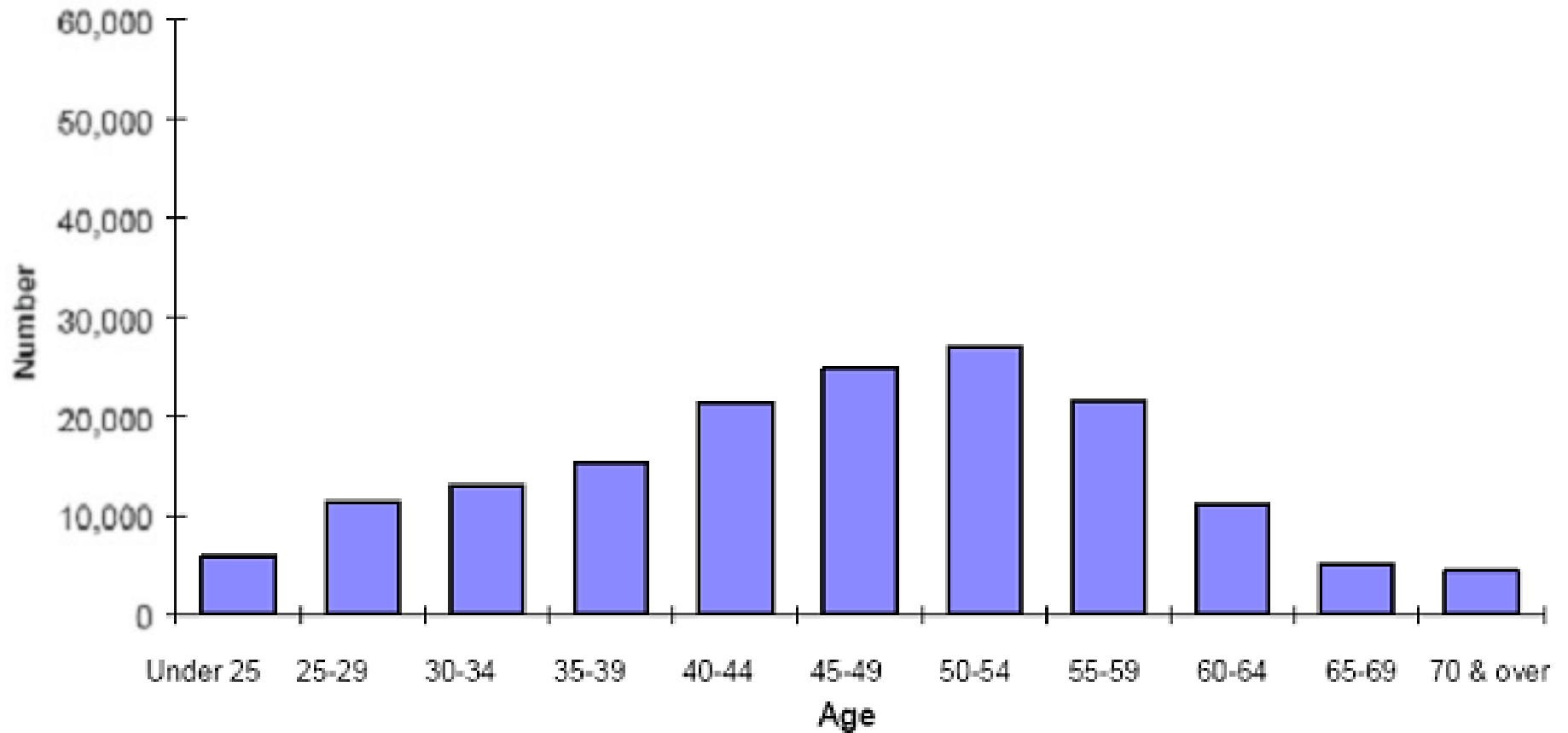
As of June 30, 2004

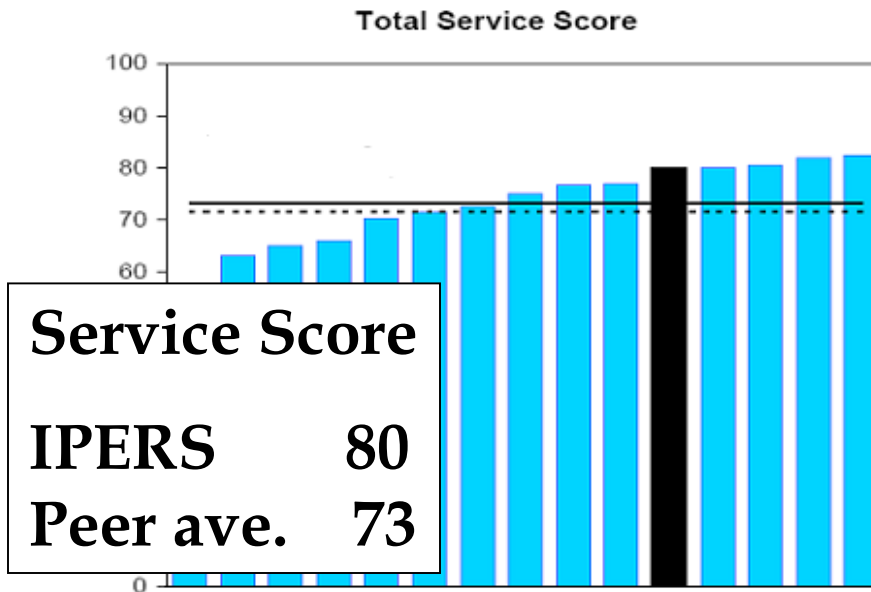
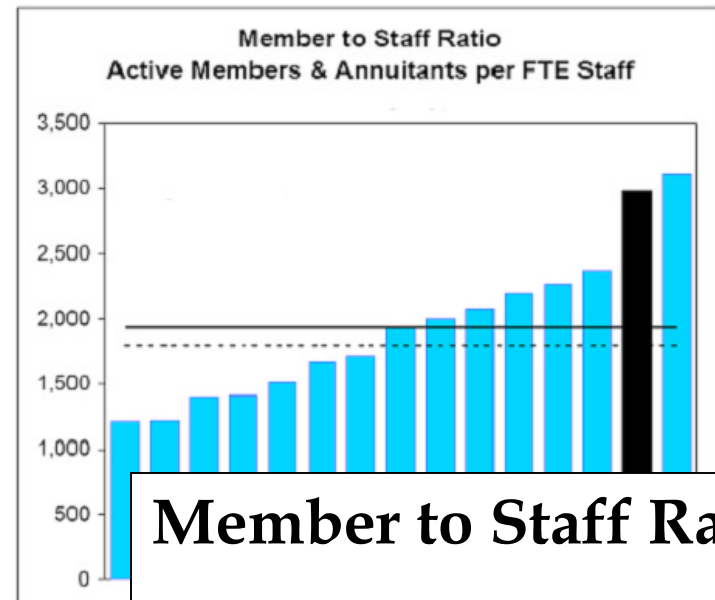
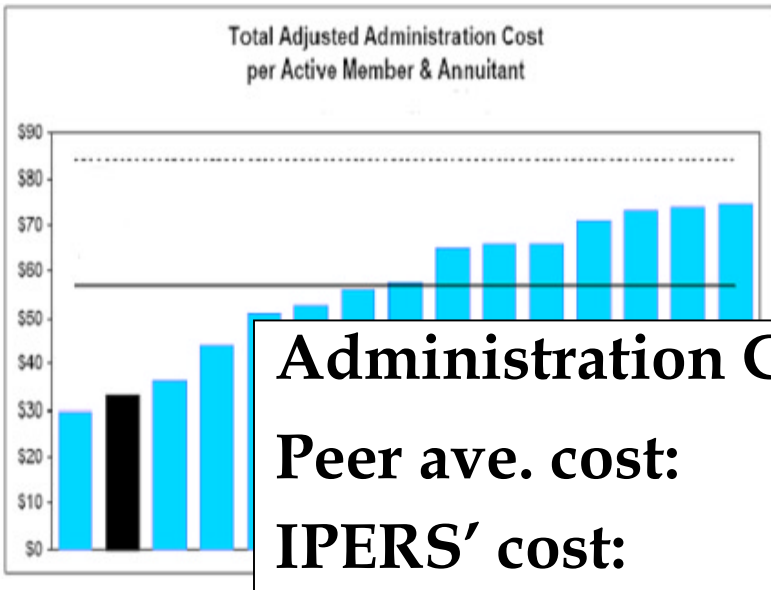






FY 2004 Total Benefits Paid = \$792,866,773

Age Distribution of Active Members

Regular Membership





IPERS 
 Peer 
 Peer Avg. 
 All Avg. 

Actuarial Value of Assets (AVA)

- Used in actuarial valuation process instead of market value
- Smooths market volatility to obtain more stable contribution rates
- Only recognizes part of investment gain/loss in year it occurs
- 85% of major public plans use an asset smoothing method

Measurement of Liabilities

Calculation of liabilities

- Who?
- When?
- How much?
- How long?

Use Assumptions to Predict Future Events

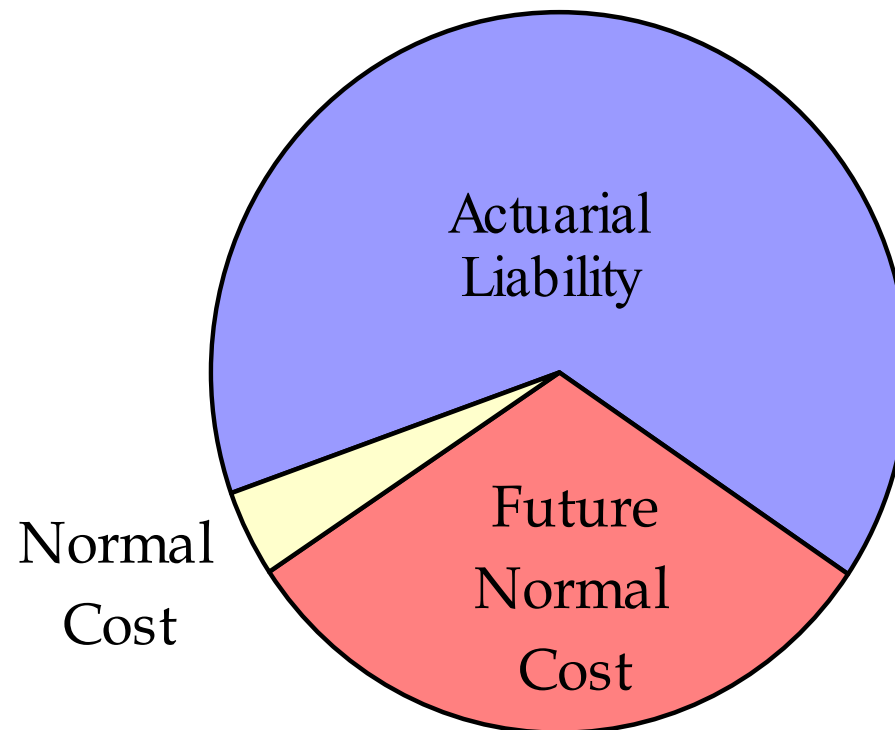
- Experience Studies

Actuarial Cost Method

- Mathematical technique which assigns costs to specific years
- Normal Cost: Cost assigned to current year of service by actuarial cost method
- Actuarial Liability (AL): Portion of actuarial present value of benefits attributable to prior service under the actuarial cost method

Actuarial Cost Method

Present Value of Future Benefits



Entry Age Normal Cost

- Level Percent of Payroll from Entry to Exit
- Calculated for Each Active Member, then summed
- Normal Cost is an Average Cost for all Actives
- Accumulates to Present Value of Future Benefits at Retirement

One Person Illustration

Assume:

Current Salary: \$30,000

Retirement Age: 65

Salary @ Age 65: \$77,000

Entry Age: 25

Benefit @ Age 65: \$50,050

Attained Age: 40

Value of Benefit @ age 65: \$463,000

Present Value of Future Benefit: \$76,000

Normal Cost (NC): \$2,100

Present Value of Future NC: \$36,000

Actuarial Liability: \$40,000

Funded Status

- Funded ratio
 - Actuarial Assets/ Actuarial Liability
- Unfunded: Assets < Actuarial Liability
- Surplus: Assets > Actuarial Liability
- On Target: Assets = Actuarial Liability

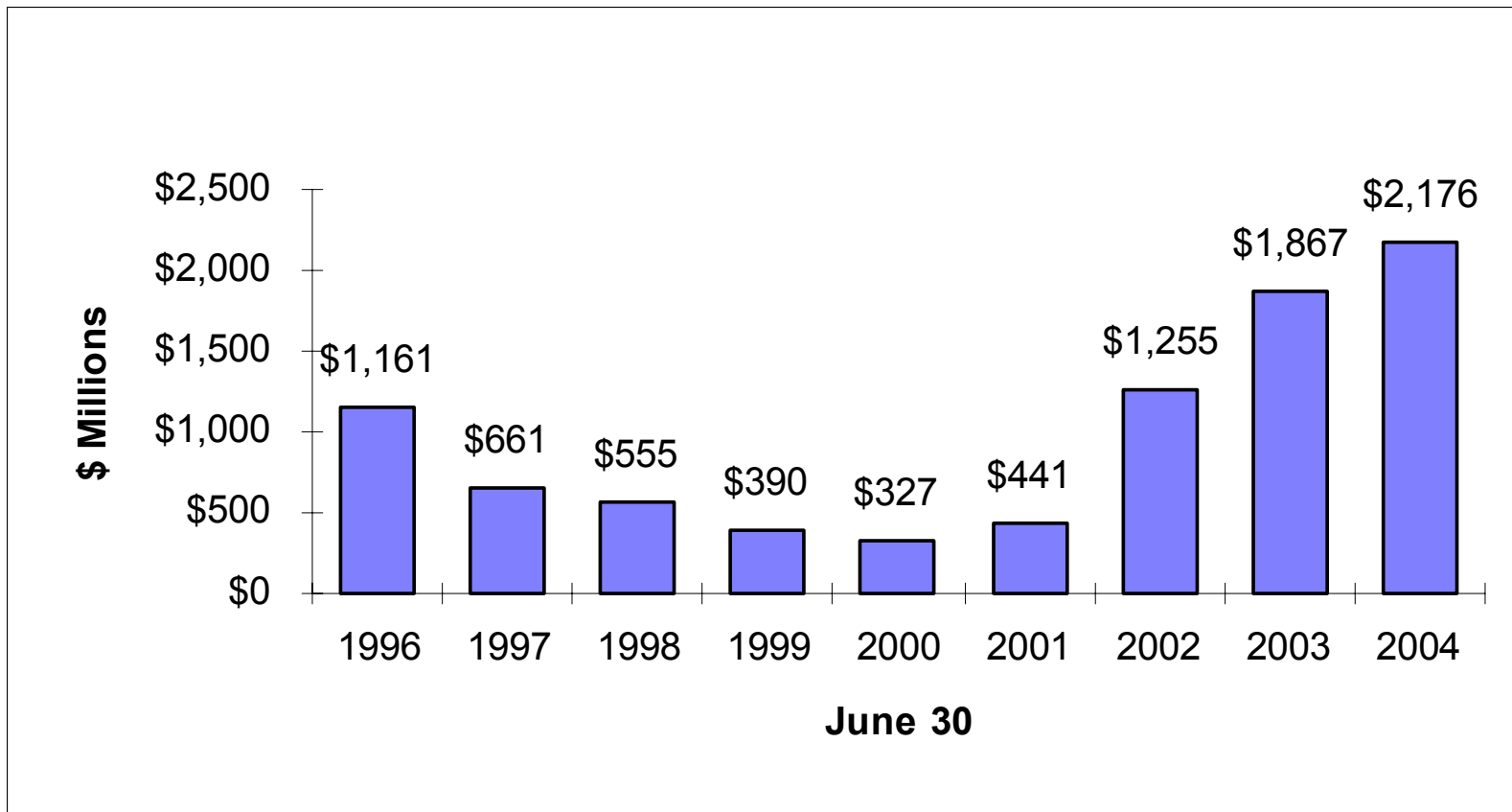
- Divergences
 - Benefit Improvements
 - Actuarial Gains and Losses
 - Assumption Changes
 - Contributions below actuarial rate

IPERS' Historical Funded Status

Key Actuarial Measures per IPERS' Actuarial Consultant (Milliman, USA)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Actuarial Liability (AL)	\$10.14 B	\$10.77 B	\$11.91 B	\$13.05 B	\$14.47 B	\$15.55 B	\$16.87 B	\$17.99 B	\$19.13 B
Actuarial Assets (AA)	\$8.98 B	\$10.11 B	\$11.35 B	\$12.65 B	\$14.15 B	\$15.11 B	\$15.61 B	\$16.12 B	\$16.95 B
Unfunded Actuarial Liability (UAL)	\$1.16 B	\$0.66 B	\$0.55 B	\$0.39 B	\$0.33 B	\$0.44 B	\$1.26 B	\$1.87 B	\$2.18 B
Funded Ratio (AA/AL)	88.5%	93.9%	95.3%	97.0%	97.7%	97.2%	92.6%	89.6%	88.6%
Normal Cost Rate	7.29%	7.26%	7.63%	8.79%	8.95%	8.93%	9.03%	9.06%	9.09%
UAL Amortization	2.16%	2.19%	1.82%	0.66%	0.50%	0.52%	0.42%	0.39%	0.36%
Total Contribution Rate	9.45%	9.45%	9.45%	9.45%	9.45%	9.45%	9.45%	9.45%	9.45%
UAL Amortization Period	20 Years	9 Years	8 Years	20 Years	21 Years	39 Years	Infinite	Infinite	Infinite

NOTE: Prior to FY '96, IPERS' actuarial cost method did not produce Funded Ratios, UALs or Amortization Periods.

Unfunded Actuarial Liability



Summary of Historical Change In IPERS Unfunded Actuarial Liability

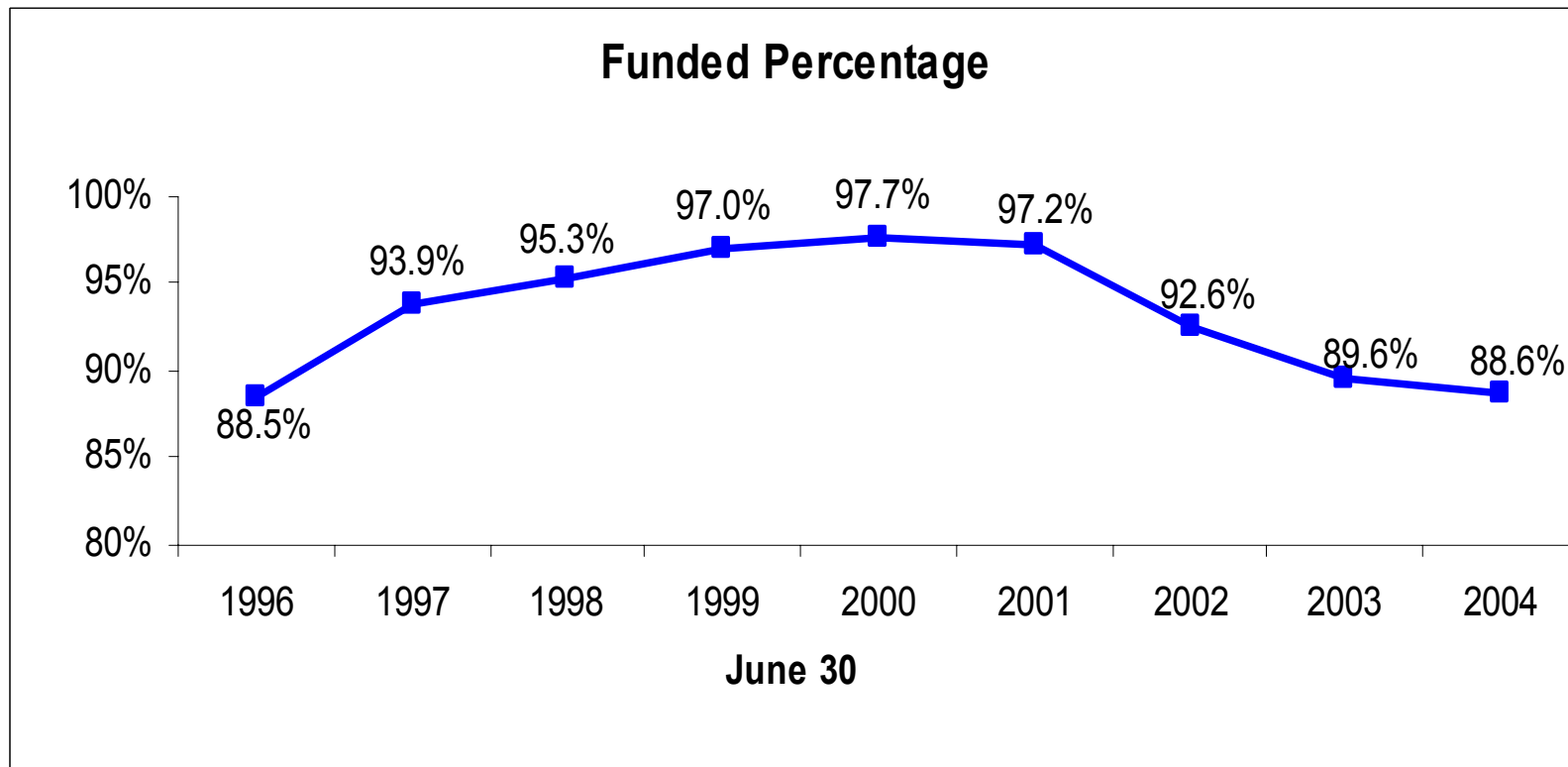
(\$Millions)	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	Total
UAL (BOY)*	1,161	661	555	390	327	441	1,255	1,867	N/A
Expected Change	(1)	(43)	(37)	(32)	(22)	3	85	123	76
Investment Experience	(474)	(716)	(730)	(781)	(81)	409	402	75	(1,896)
Liability and Other Experience	(25)	118	(211)	515	217	258	125	82	1,079
Benefit Enhancements	0	342	0	142	0	3	0	29	516
Change in Assumptions	0	0	587	0	0	141	0	0	728
FED Transfer	0	193	226	93	0	0	0	0	512
UAL (EOY)**	661	555	390	327	441	1,255	1,867	2,176	N/A
Amortization Years	9	8	20	21	39	#	#	#	

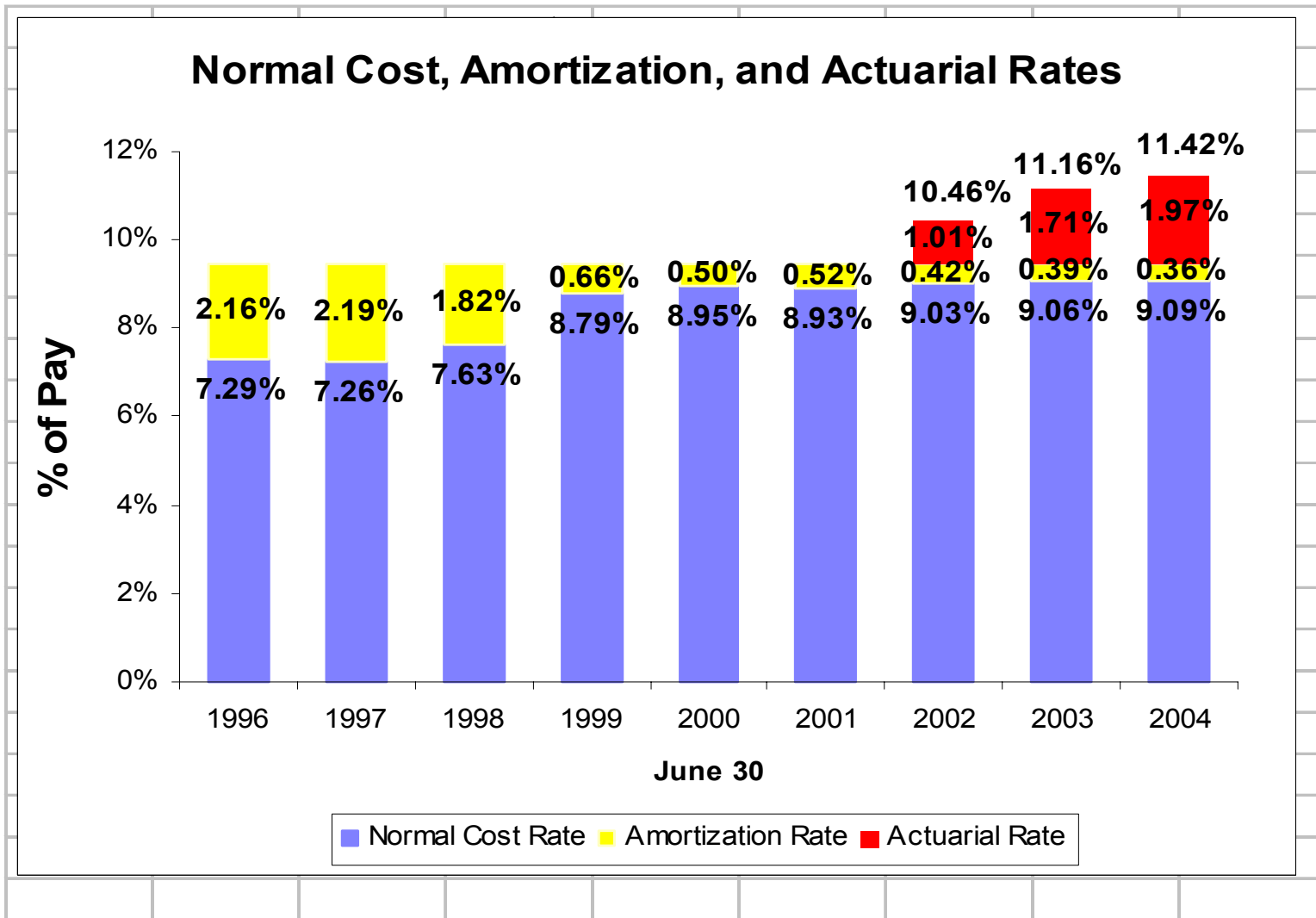
Infinite

* - Beginning of Year

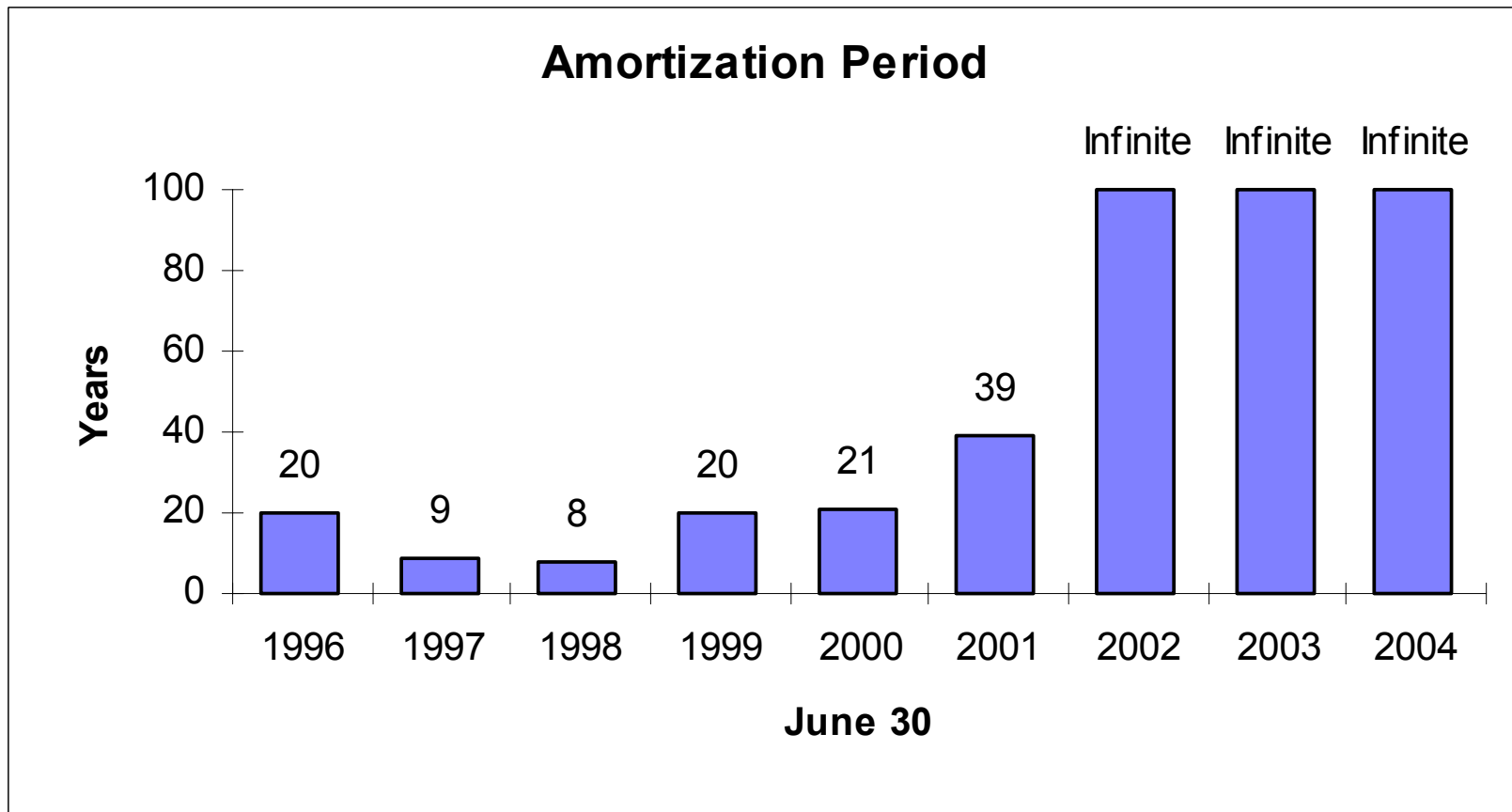
** - End of Year

Funded Ratio





UAL Amortization



June 30, 2004 Valuation Results

- Evaluate sufficiency of statutory contribution rate for general membership
- Funded ratio = $\$16.952\text{B} / 19.128\text{B} = 88.6\%$
- Normal cost = 9.09%
- Payment on UAL = 0.36%
- Actuarial Rate = 11.42%*

*30 year amortization of UAL

Conclusions

- Based on current assumptions, years to amortize are infinite
- System not in actuarial balance
 - Current assets + PV of future statutory contributions do NOT equal PV of future benefits
 - Long-term funding concern
- Ways to address issue
 - “Earn Your Way Out” (not probable)
 - Decrease benefits (impact is 15-20 years out)
 - Increase contributions (sooner is better)