

TEACHERS' RETIREMENT SYSTEM OF OKLAHOMA

**ACTUARIAL VALUATION
AS OF JUNE 30, 2006**

GRS

Gabriel Roeder Smith & Company

Actuarial Valuation

- Prepared as of June 30, 2006, using member data, financial data, benefit and contribution provisions, actuarial assumptions and methods
- Purposes:
 - Measure the actuarial liabilities
 - Determine adequacy of current statutory contributions
 - Provide other information for reporting
 - GASB #25
 - State Pension Commission
 - CAFR
 - Explain changes in actuarial condition of OTRS
 - Track changes over time

Actuarial Valuation – Key Changes and Issues

- EESIP (aka Wear Away)
 - Net impact
 - Including higher contributions from EESIP employers
- 2.00% COLA
- Larger than expected State contribution
- Changes in State's income tax provisions
 - Impacts projected State contributions
- Almost 3,000 more active members
- Small asset gain!
 - End of the bleeding from FY 2001- FY 2003 losses

Membership – Actives and Inactives

- The number of active members increased by 2,908, from 84,286 to 87,194
 - 3.5% increase, following a 3.2% increase last year
 - Over last ten years, active membership has increased an average of 1.0% per year
- Payroll for members active on June 30, 2006 increased from \$3,175 million to \$3,355 million, a 5.7% increase
 - Payroll has increased by 41% in the last ten years, an average increase of 3.5% per year
 - We assume a 3.5% average annual increase

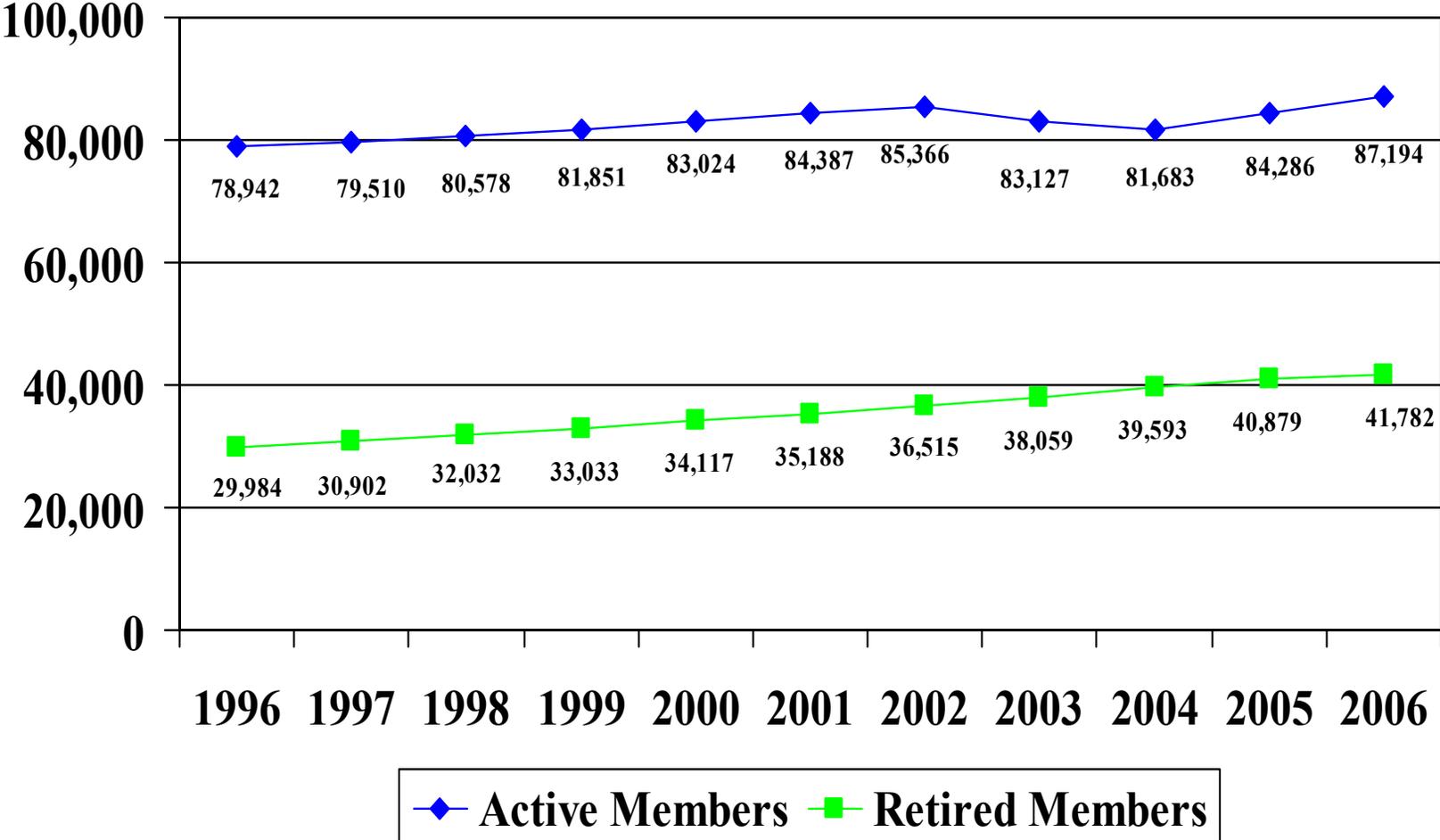
Membership – Actives and Inactives

- Average pay for active members increased 2.1%, from \$37,671 to \$38,476
- Average age of active members increased to 45.7, from 45.6 and from 44.0 ten years ago
- Average years of service remained at 11.6 compared to 11.1 ten years ago
- There are also 6,171 inactive vested members, and 6,606 inactive nonvested members

Membership – Retirees & Beneficiaries

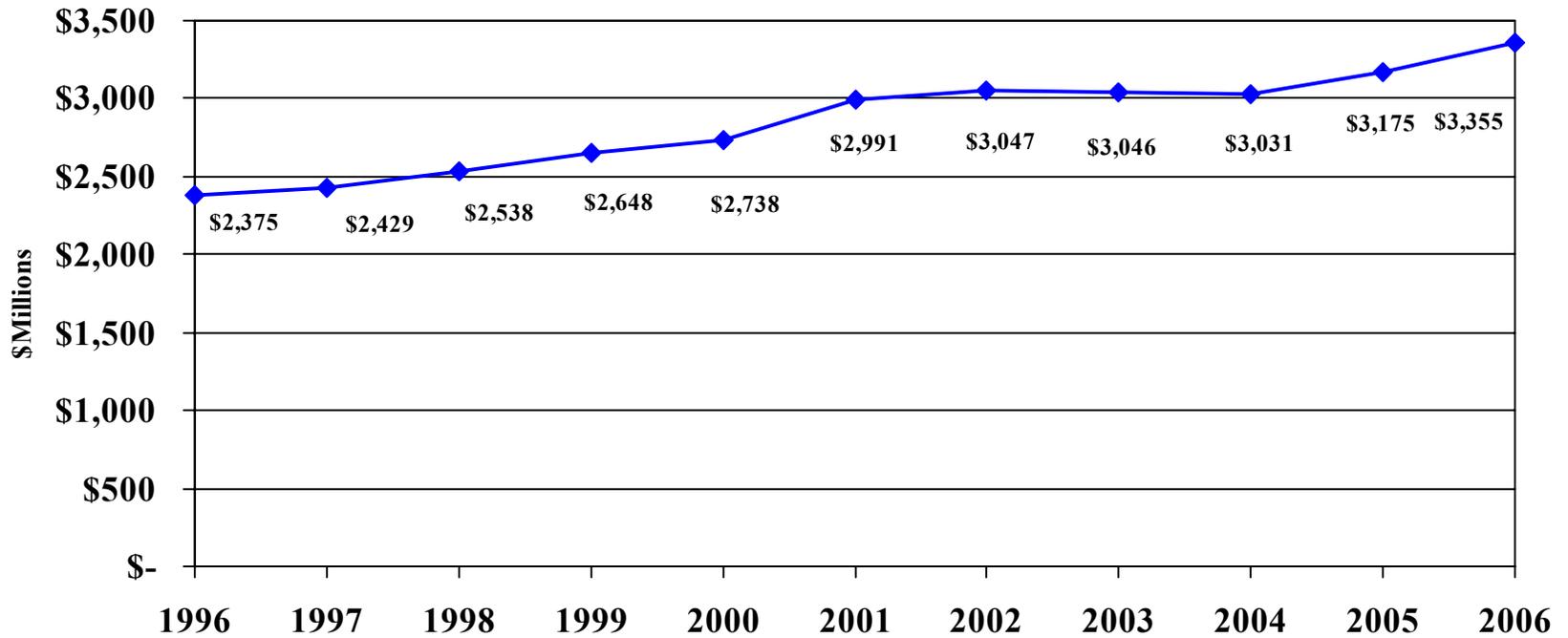
- The number of retirees increased by 903, from 40,879 to 41,782, a 2.2% increase
 - Number includes service retirees, disabled retirees, special retirees, and beneficiaries receiving benefits
 - Over the last ten years, the number of retirees has grown an average of 3.4% per year
- Average annual retiree benefit is \$16,795
- There are 2.1 active members for each retiree
 - Ratio is slowly decreasing, was 2.7 ten years ago
- Over last ten years, the number of actives has increased 11.1%, while the number of retirees has increased 39.3%

Active Members vs. Retired Members



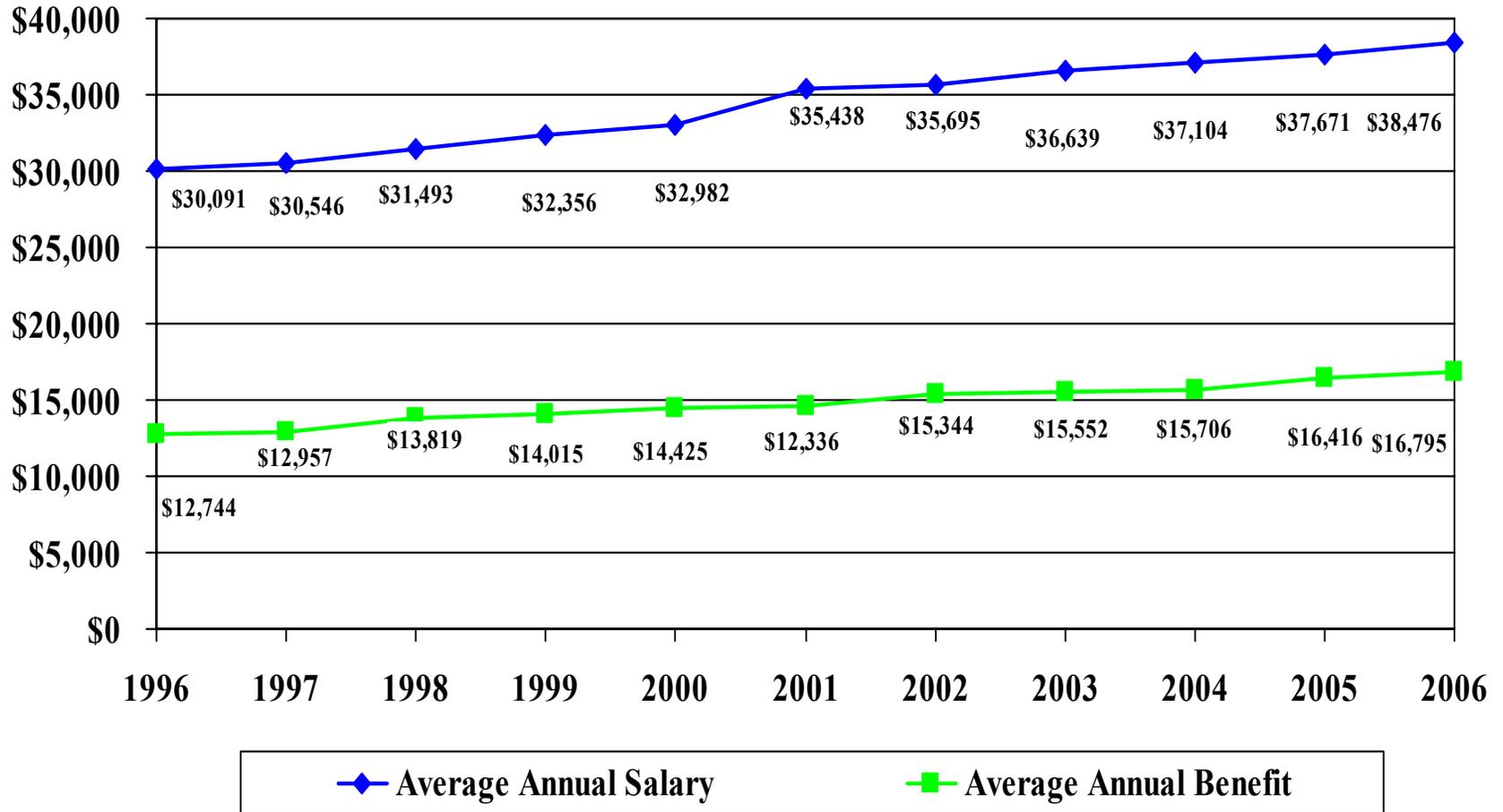
1.0% average increase for active members over last ten years
 3.4% average increase for retired members over last ten years
 2.1 active members per retiree

Payroll



3.5% average increase over last ten years

Average Salary and Average Benefit



2.5% average increase in average salary over last ten years
 2.8% average increase in average benefits over last ten years

Assets

- Fair market value increased from \$7,238 million to \$7,859 million
 - Assets shown exclude 403(b) accounts
 - 66% in equities, 34% cash and fixed income
- Four sources of contributions
 - Member contributions (7.00% of pay = \$249 million)
 - Includes service purchases and redeposits
 - Employer contributions (7.05% of pay = \$241 million)
 - State contribution (4.00% of tax revenues = \$202 million)
 - Higher than \$184 million expected
 - Increases to 4.50% for FY 2007 and to 5.00% for FY 2008
 - Federal matching contributions (5.00%, \$16 million)
 - Increases to 7.00% for FY 2006
- Total contributions of \$708 million, compared to \$641 million in FY 2005

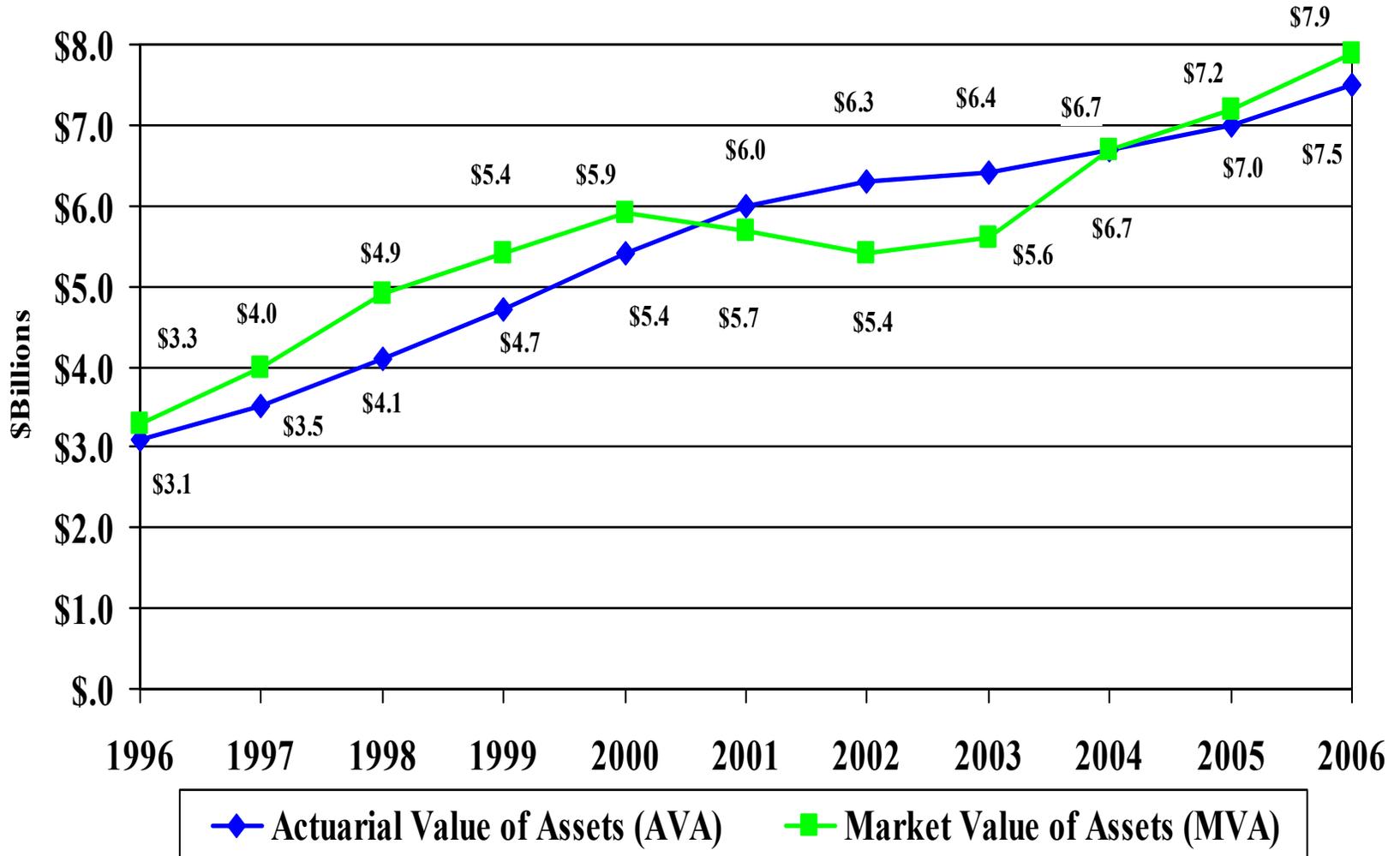
Assets

- The distributions (benefit payments, refunds and administrative expenses) totaled \$763 million
- Therefore, there is a negative external cash flow of \$54 million
 - -0.7% of market value at end of year
 - Not significant
- Return on market of approximately 9.4% in FY 2006
 - It was 10.0% in FY 2005
 - Average return for last ten years was 9.8%
 - 7.5% for last five years
 - 10.4% for last fifteen years

Assets

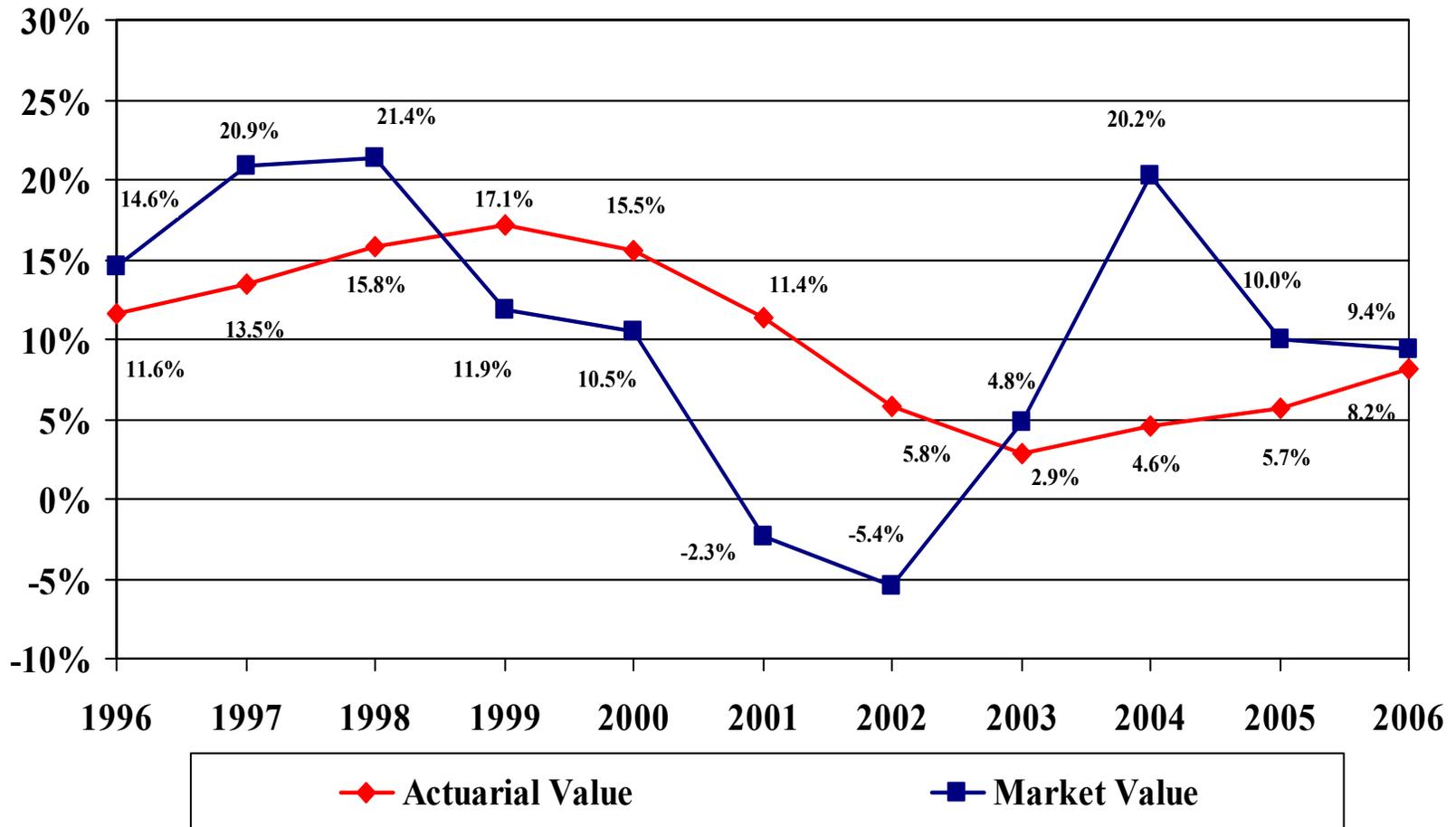
- All actuarial calculations are based on actuarial value of assets (AVA), not market value
- AVA reflects 20% of the difference between last year's expected return on market and the actual return
 - 40% of FY 2005 difference, 60% of FY 2004 difference and 80% of FY 2003 difference
 - AVA now \$7,470 million, vs. \$6,953 million last year
- Actuarial return was 8.2% in FY 2006, compared to 5.7% in FY 2005
- 9.9% average return on actuarial value over last ten years
- AVA is 95.1% of fair market value (was 96.1% last year)
- \$389 million in deferred gains, not yet recognized

Actuarial and Market Values of Assets



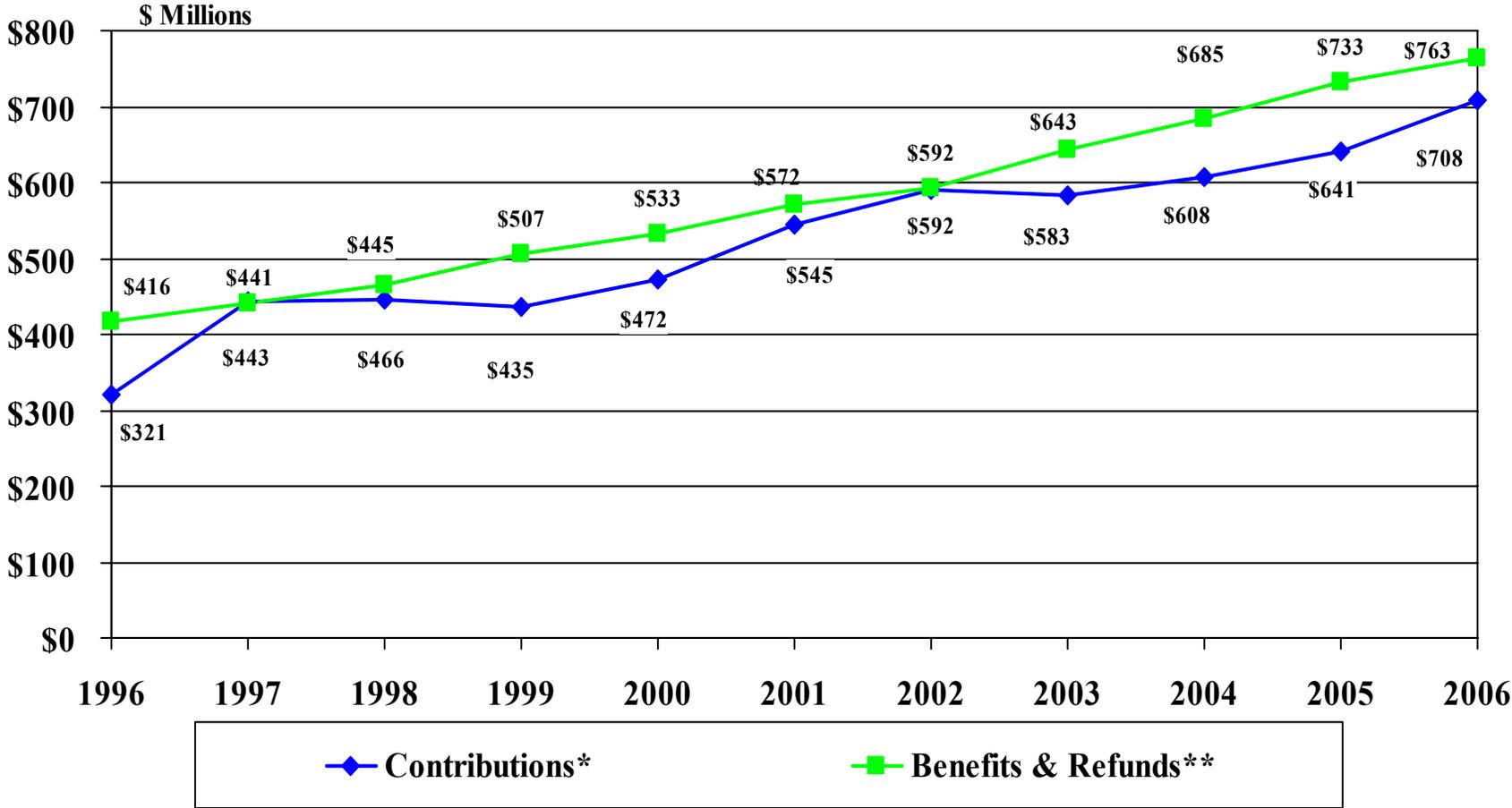
AVA is 95.1% of MVA
 Deferred gains of \$389 million

Estimated Yield Based on Actuarial and Market Values of Assets



9.8% average compound return on market value over the last ten years
 9.9% average compound return on actuarial value over the last ten years

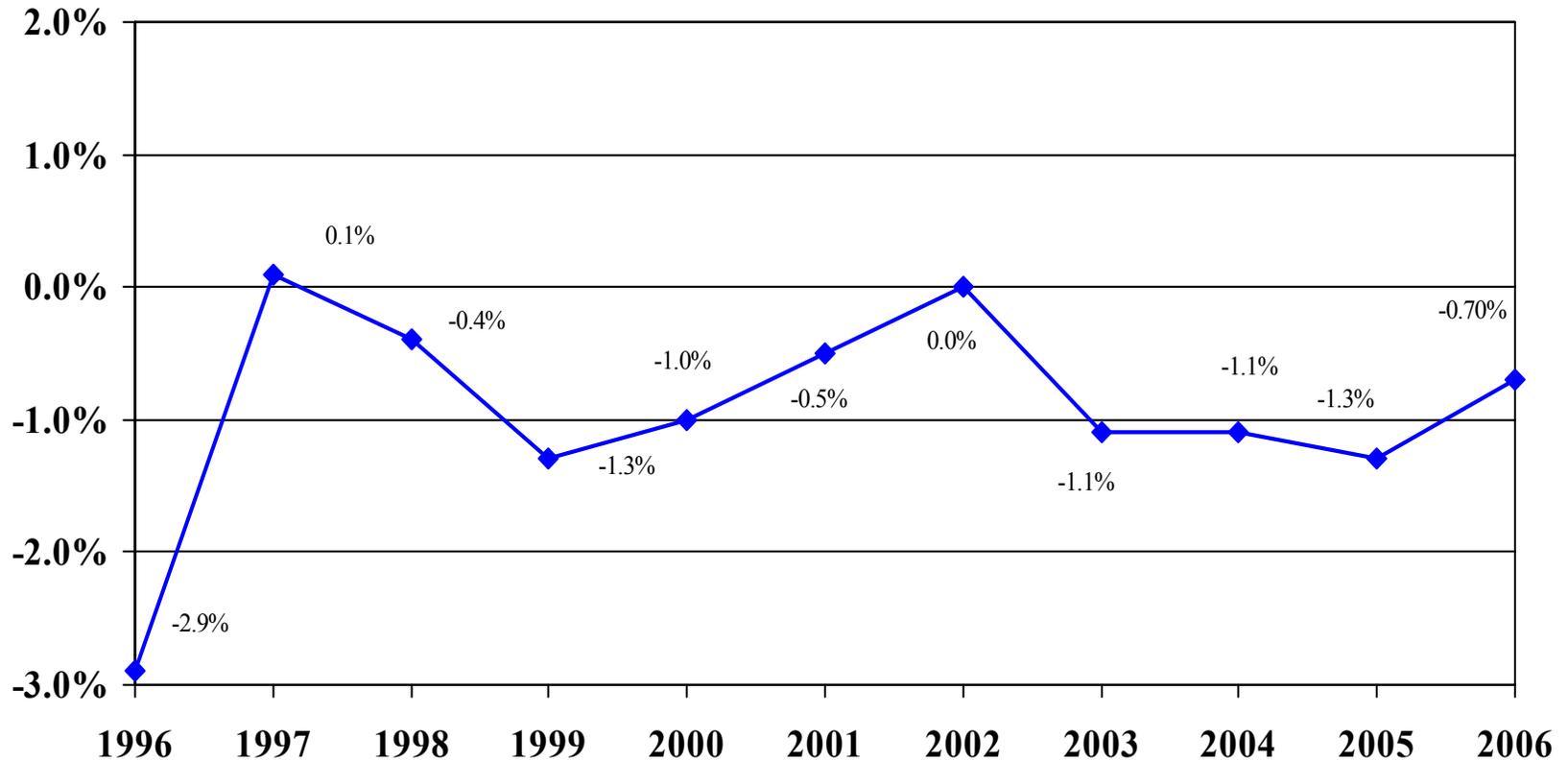
Contributions vs. Benefits & Refunds by Fiscal Year



* Includes member, state, employer and federal contributions

** Includes administrative expenses

External Cash Flow As Percentage of Market Value



Benefit and Contribution Structure Changes

- New legislation - HB 1179:
 - Establish EESIP
 - Members excluding comprehensive or regional universities can ‘uncap’ two years of service pre 7/1/1995 for each year worked past NRA
 - Cap is raised to \$60,000 in FY2007, \$80,000 in FY2008 and eliminated beginning July 1, 2008
 - Employee electing caps must repay at 10% interest accumulated to the retirement date contributions that would have been required but for the cap then in place.
 - Payment is limited to FY1998 to FY 1995 with 50% of the accumulated balance due for FY2007, 75% for FY2008 and 100% on or after FY2009

Benefit and Contribution Structure Changes

- New legislation - HB 1179:
 - Establish EESIP
 - Open to members with service before July 1, 1995 (subject to \$40,000 or \$25,000 cap)
 - Members in 4-year universities not eligible
 - Members can ‘uncap’ two years of service pre 7/1/1995 for each year worked past NRA
 - Cap on years worn away is \$60,000 (FY 2007), \$80,000 (FY 2008) and eliminated July 1, 2008

Benefit and Contribution Structure Changes

- Employee electing EESIP must pay the contributions for each uncapped year that would have been required at the time
 - with 10% interest
 - Payment is only required for years FY 1988 to FY 1995
 - Only 50% of the accumulated balance due for retirements in FY2007, 75% due for FY 2008 retirements, and 100% due after that

Benefit and Contribution Structure Changes

- Increased employer contributions:
 - Contribution rate paid by EESIP employers increases to 7.60% at 1/1/2007, 7.80% for FY 2008, and 8.00% after that
 - No change to 7.05% rate for universities excluded from EESIP
- 2% ad hoc COLA applied to all retirees
- Changes to State's income tax
 - Expected to reduce State's contribution to OTRS by \$23 million in FY 2010
 - We modified our projection

Changes in Actuarial Assumptions and Methods

- Summary of changes:
 - Reduced retirement rates by 10% for EESIP employees until all pre 1995 service is ‘uncapped’
 - Members assumed to defer because of EESIP retire immediately after ‘uncapping’ all pre 1995 service
 - Members receive EESIP enhancement if additional actuarial value exceeds repayment cost

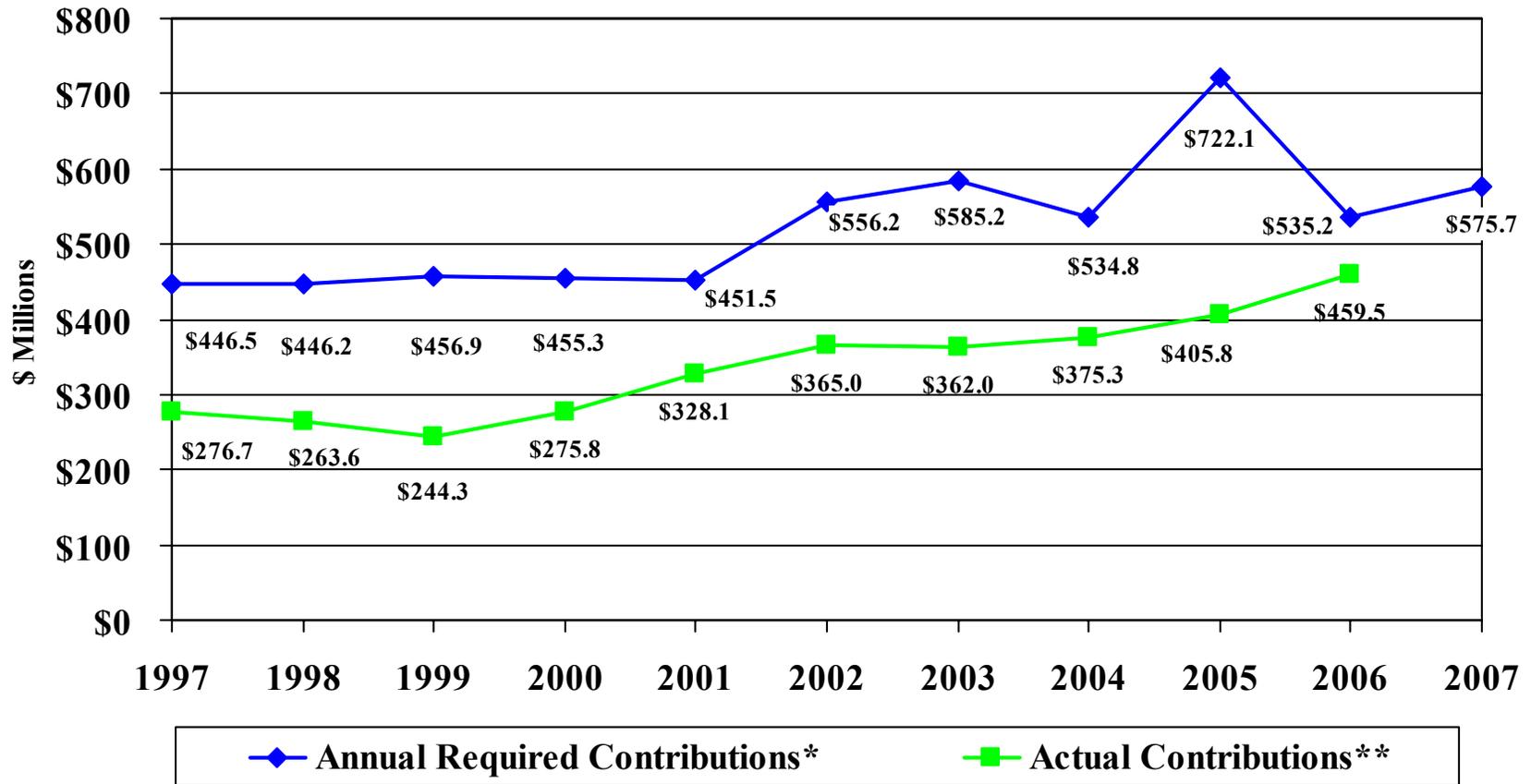
Actuarial Results

- Unfunded actuarial accrued liability (UAAL) increased from \$7,100 million to \$7,673 million
- Increase occurred primarily because of EESIP and 2% ad hoc COLA
- Funding period reduced from 42.6 years to 37.4 years
 - Primarily due to increased statutory contributions from EESIP employers
- UAAL expected to increase until FY 2025 and then to decline until fully amortized in FY 2044
 - Projected to peak at \$9.5 billion in FY 2025
 - Assuming no benefit changes or other gains/losses

Actuarial Results

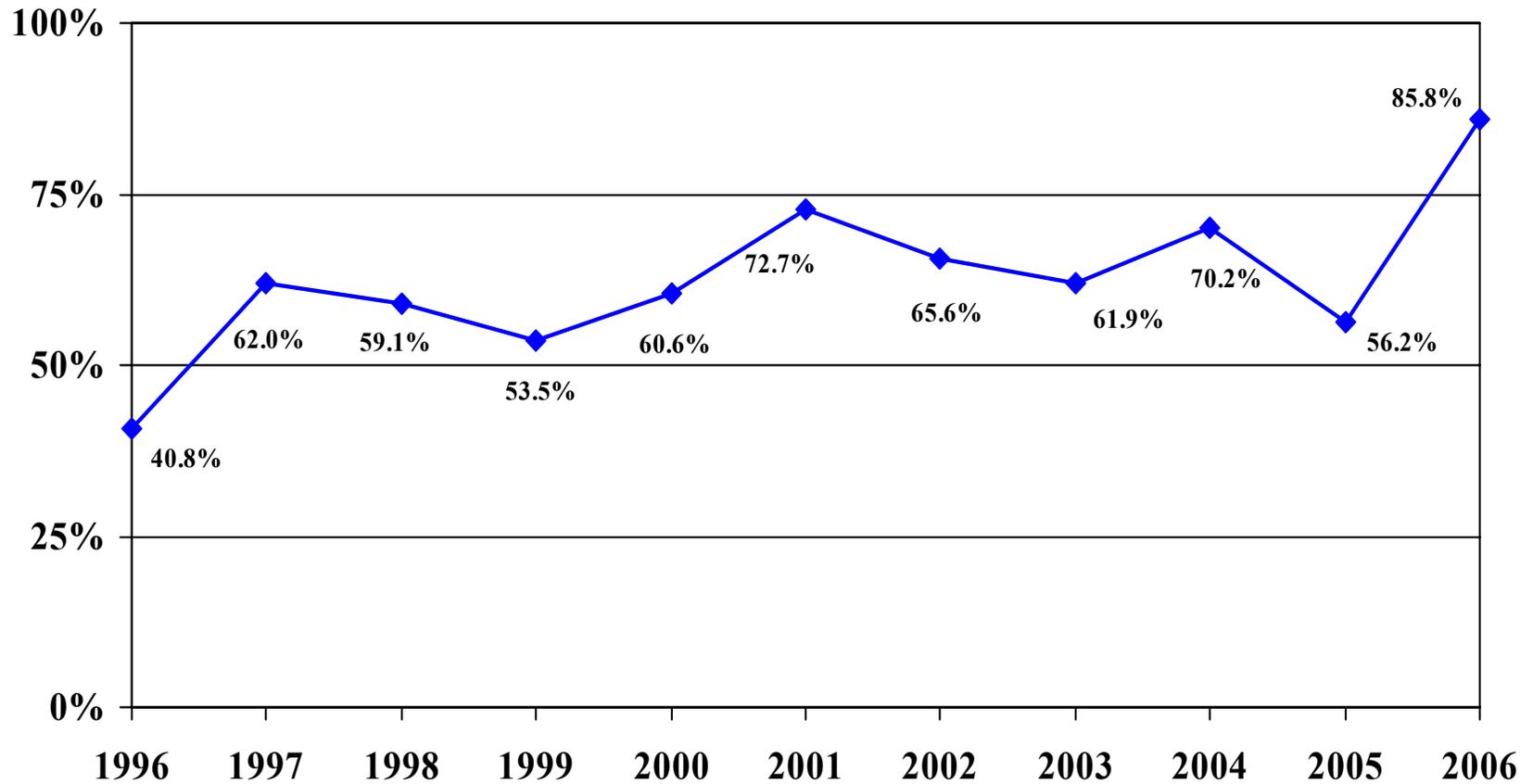
- Annual required contribution (GASB #25 ARC = normal cost plus 30-year funding of UAAL, using level percent of pay) of \$576 million vs. \$535 million last year
 - 16.60% vs. 16.32%
- Actuarial gains/(losses)
 - Assets: \$13.3 million gain
 - Liabilities: \$118.8 million gain
 - Due to members delaying retirement for EESIP?
 - EESIP: \$448.3 million increase in UAAL
 - 2% ad hoc COLA: \$67.2 million increase in UAAL

Annual Required Contribution (ARC) vs. Actual Contributions

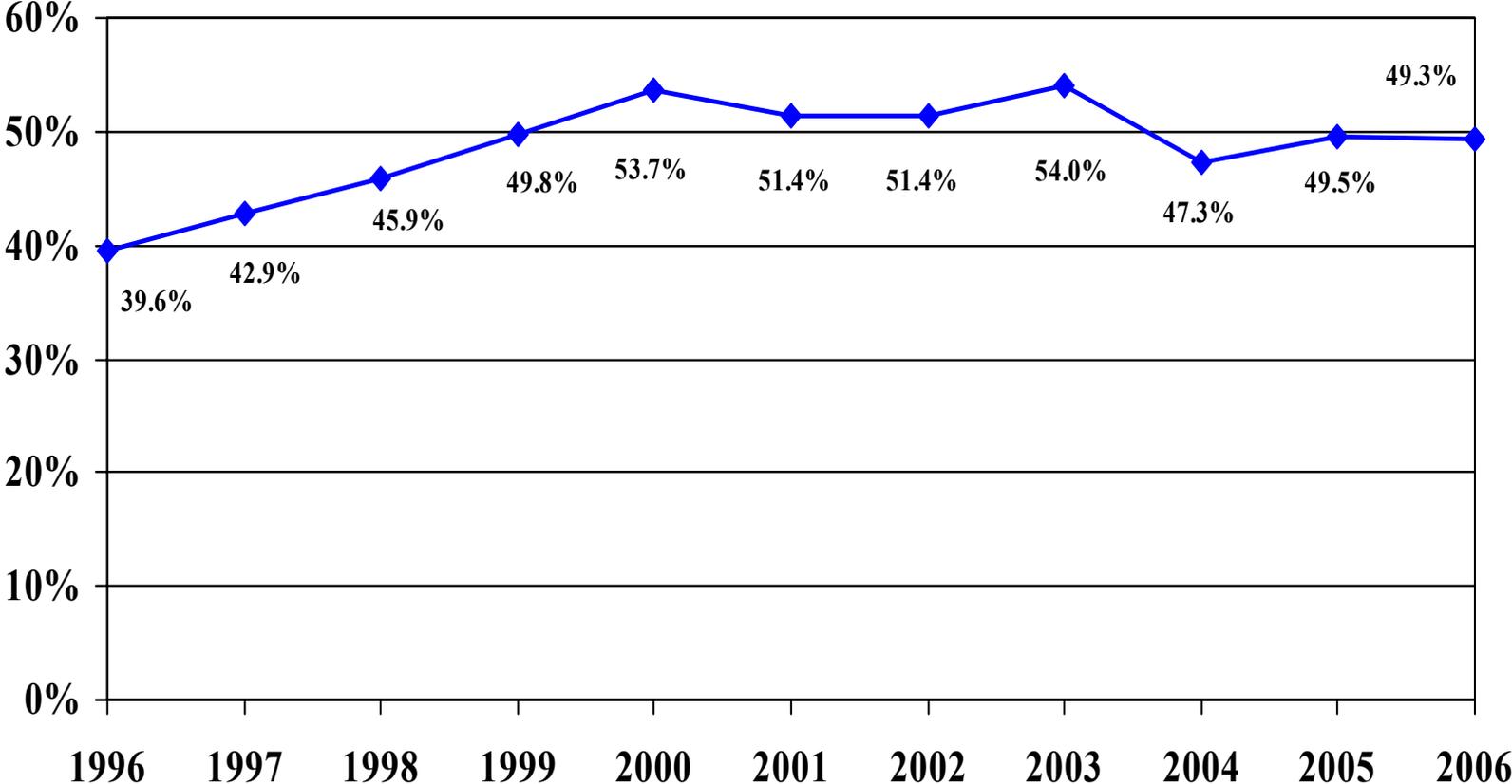


* Normal cost, plus 30-year level percent of pay amortization of UAAL since FY 2006
 Normal cost, plus 40-year level dollar amortization of UAAL before that
 ** Employer, state and federal matching contributions

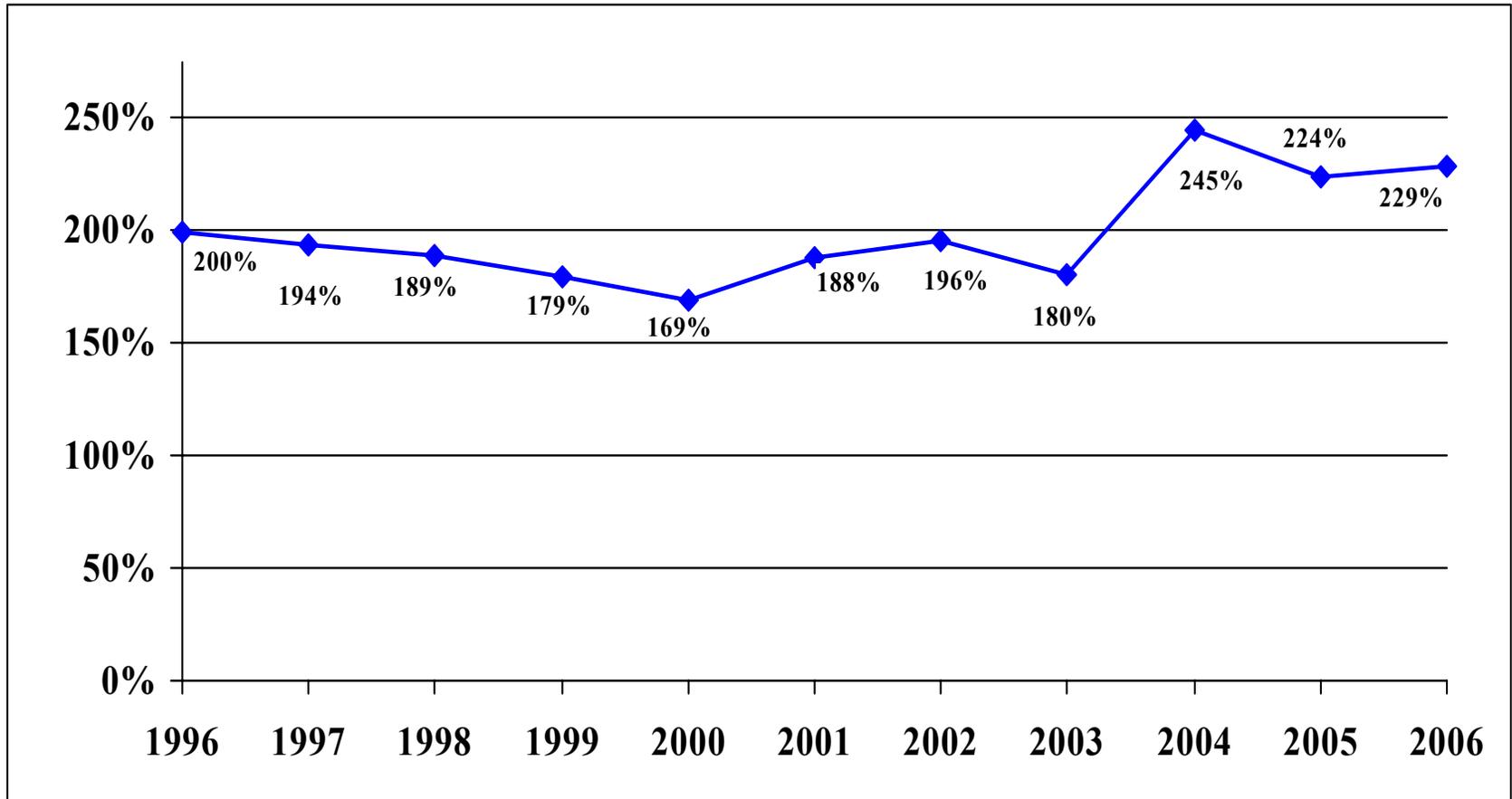
Actual Contributions as Percentage Of Annual Required Contribution



GASB #25 Funded Ratio



UAAL as a Percentage of Covered Payroll



Change in UAAL for The Year (In \$ Millions)

	FY 2006	FY 2005
1. UAAL, beginning of year	\$7,099.7	\$7,419.2
2. Expected increase (decrease)	240.6	321.8
3. Liability loss / (gain)	(119.0)	(28.0)
4. Asset loss / (gain)	(13.3)	149.7
5. Actual vs. expected contributions	(50.5)	(41.7)
6. 2% ad hoc COLA	67.2	0.0
7. EESIP (Net)	448.3	0.0
8. Assumption changes (exp study)	0.0	(721.3)
9. UAAL, end of year	\$7,672.9	\$7,099.7

Reporting for State Pension Commission

- Specified assumptions
 - Investment return rate: 7.50% vs. 8.00% in regular valuation
 - Future retiree increases: 2% vs. 1% in regular valuation
 - Mortality: RP-2000 with projections, vs. OTRS tables
 - Funding: 30-year amortization (level dollar vs. level %)
- Actuarial results:
 - Actuarial accrued liability: \$17.4 billion vs. \$15.1 billion in regular valuation
 - Actuarial assets: \$7.5 billion (no difference)
 - UAAL: \$10.0 billion vs. \$7.7 billion in regular valuation
 - Funded ratio: 42.8% vs. 49.3% in regular valuation

Reporting for State Pension Commission

- Calculated contribution (in millions)

Total	\$1,261	36.35%
Less members	\$243	7.00%
Less employers	\$244	7.05%
Less federal	\$23	0.66%
Net (State)	<u>\$751</u>	<u>21.64%</u>

- Was net \$717 million last year, or 23.06%