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Human Resource Consulting

March 24, 2004 PERS and TRS Board Meeting

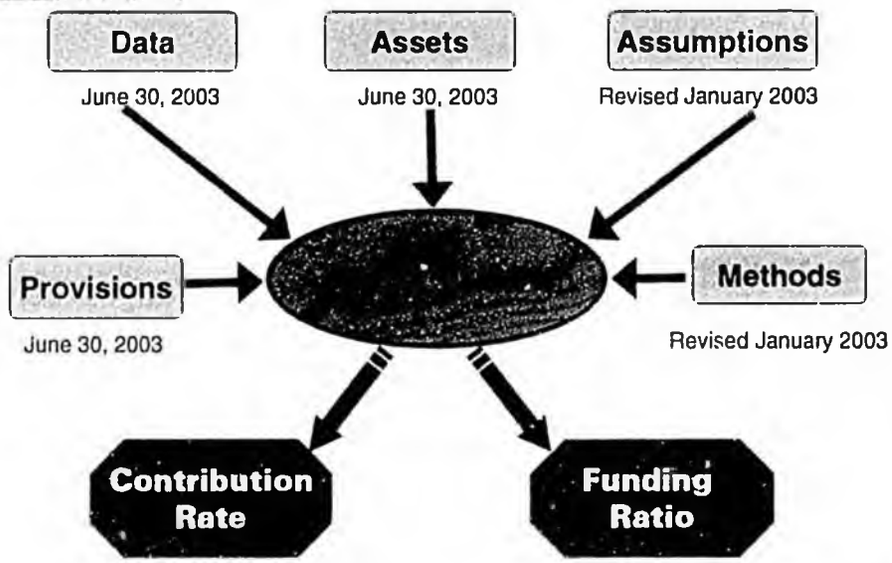
State of Alaska

Public Employees' Retirement System and Teachers' Retirement System Actuarial Valuations as of June 30, 2003

Robert Reynolds, ASA, MAAA
Chris Byrnes, EA

MMC Marsh & McLennan Companies

State of Alaska



State of Alaska - PERS

Key Results

	FY05	FY06
Average Contribution Rate:	24.91%	25.63%
Board Adopted Rate:	11.77%	TBD

	June 30 2002	June 30 2003
Funding Ratio:		
Non-Medical Benefits:	120.9%	121.4%
Total Benefits:	75.2%	72.8%

State of Alaska - TRS

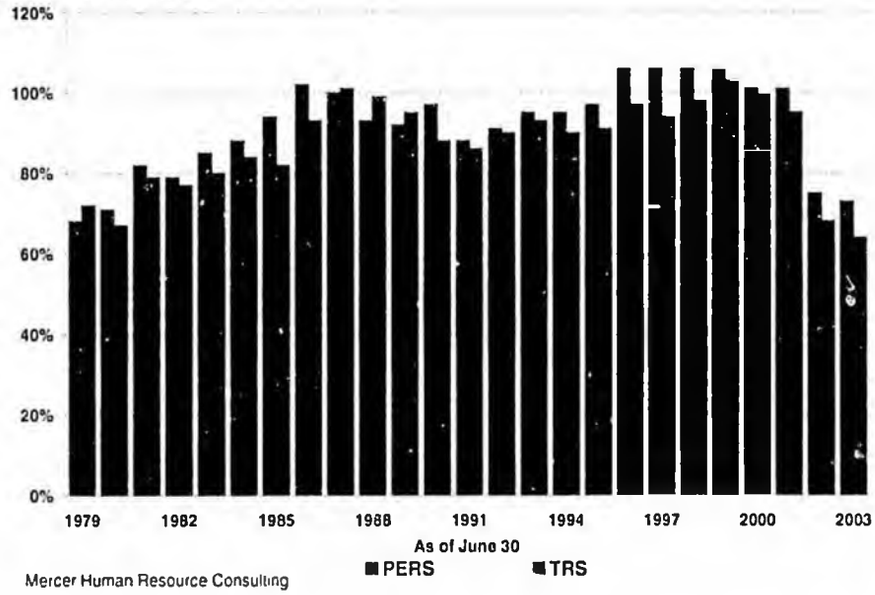
Key Results

	FY05	FY06
Total Contribution Rate:	35.57%	38.85%
Board Adopted Rate:	16.00%	TBD

	June 30 2002	June 30 2003
Funding Ratio:		
Non-Medical Benefits:	93.2%	89.5%
Total Benefits:	68.2%	64.3%

State of Alaska

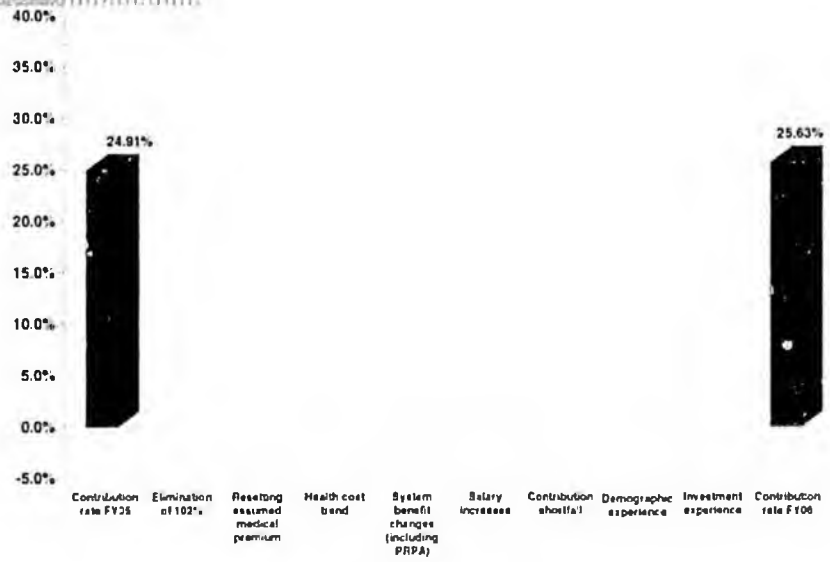
Funding Ratio History



Mercer Human Resource Consulting

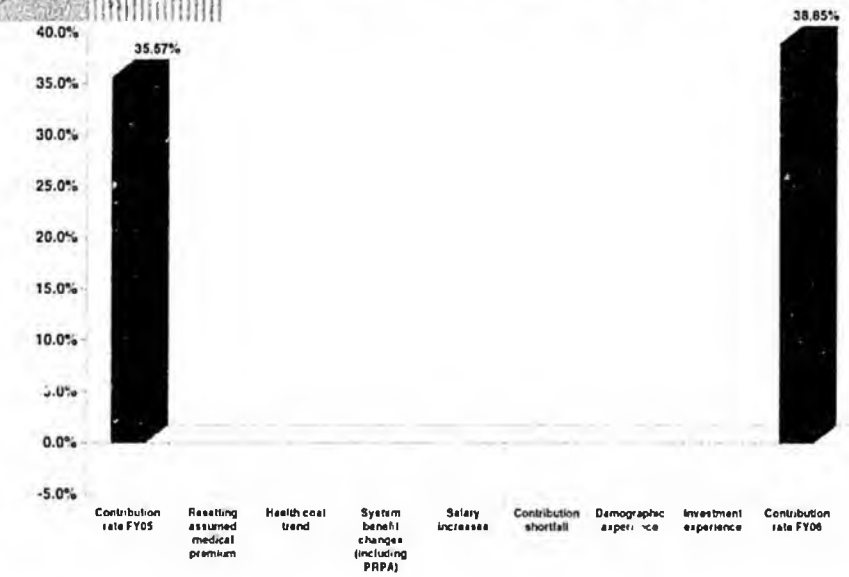
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



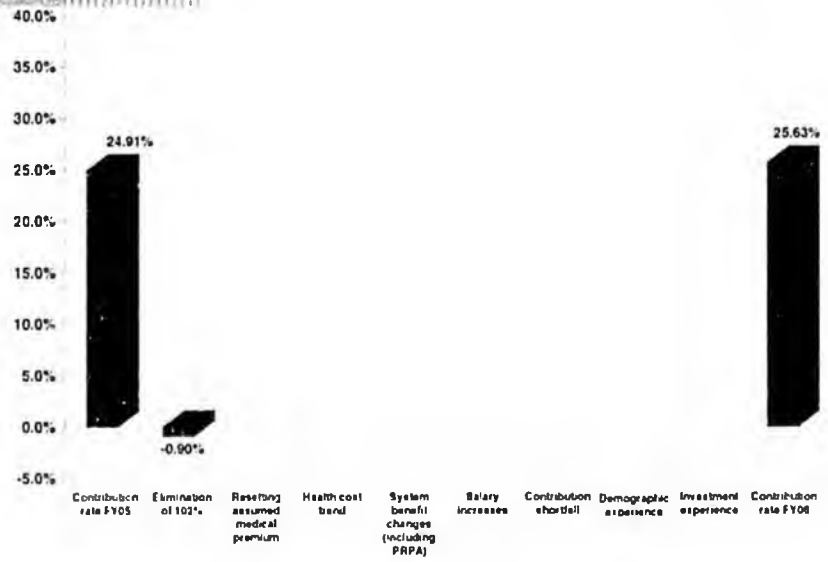
State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



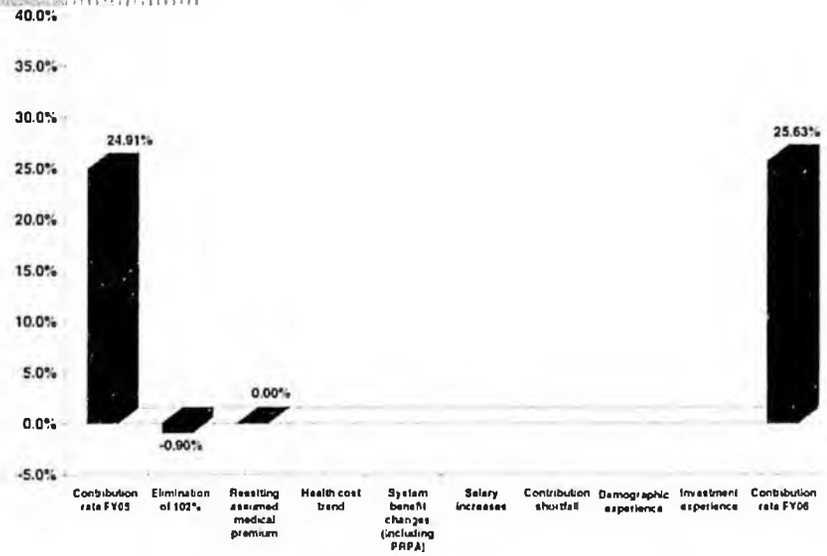
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



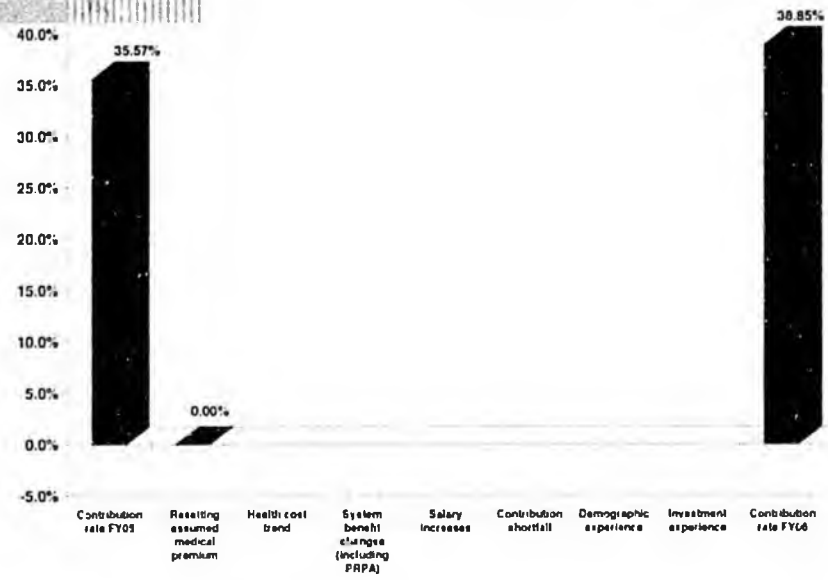
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



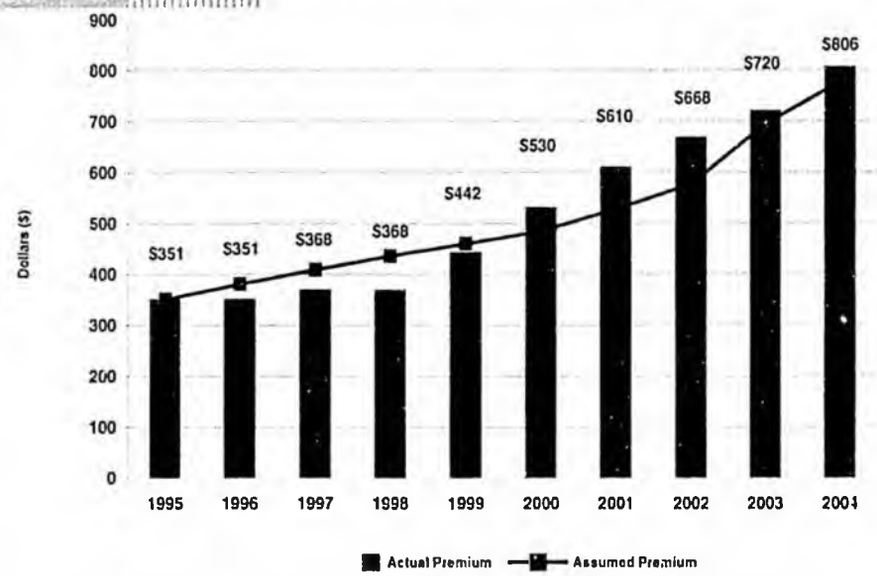
State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



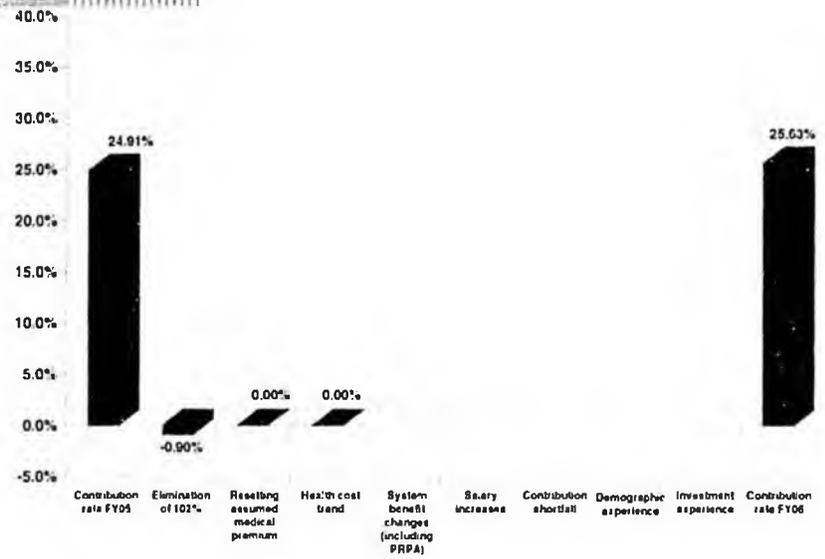
State of Alaska

Monthly Blended Premium per Retiree for Health Coverage



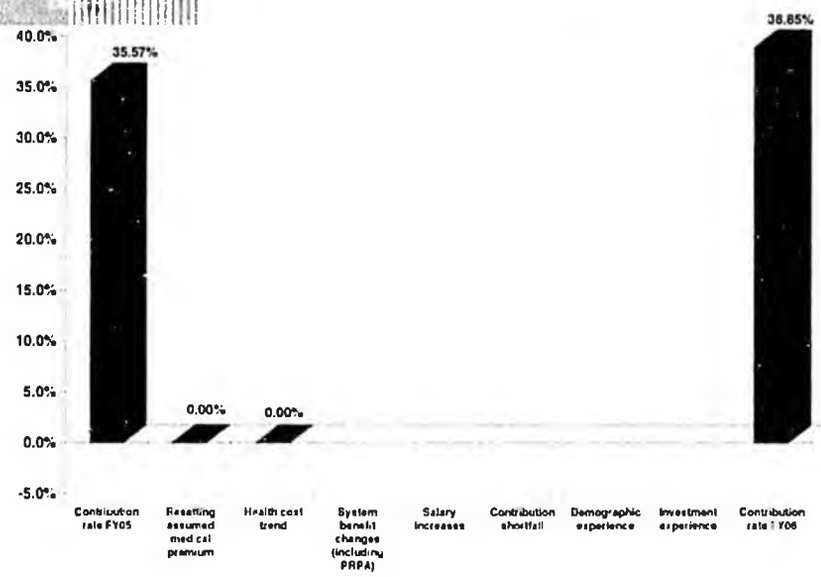
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



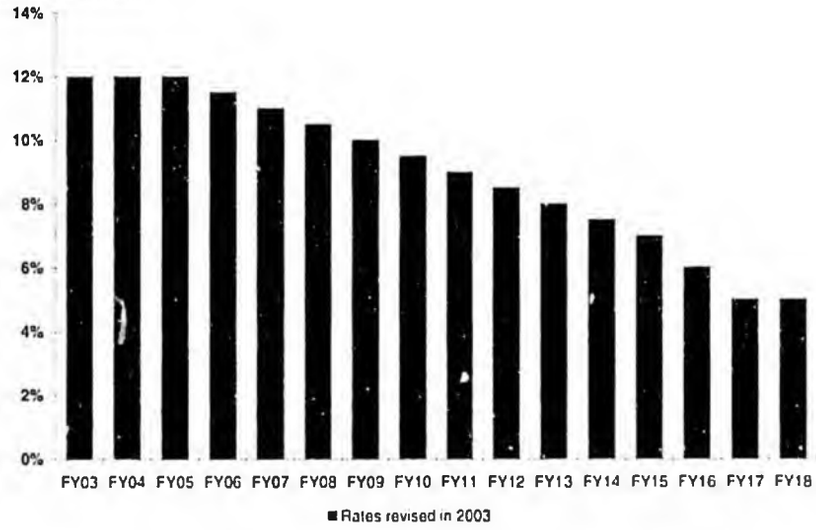
State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



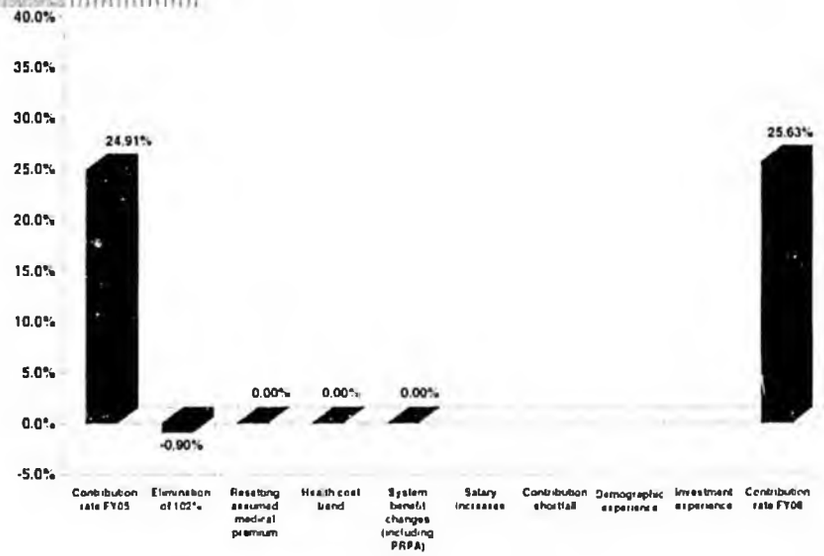
State of Alaska

Health Cost Trend Assumption



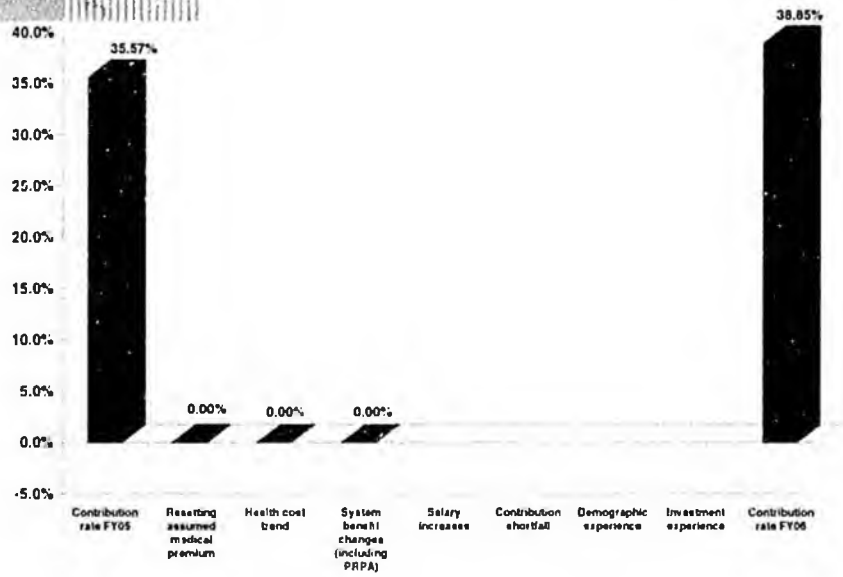
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



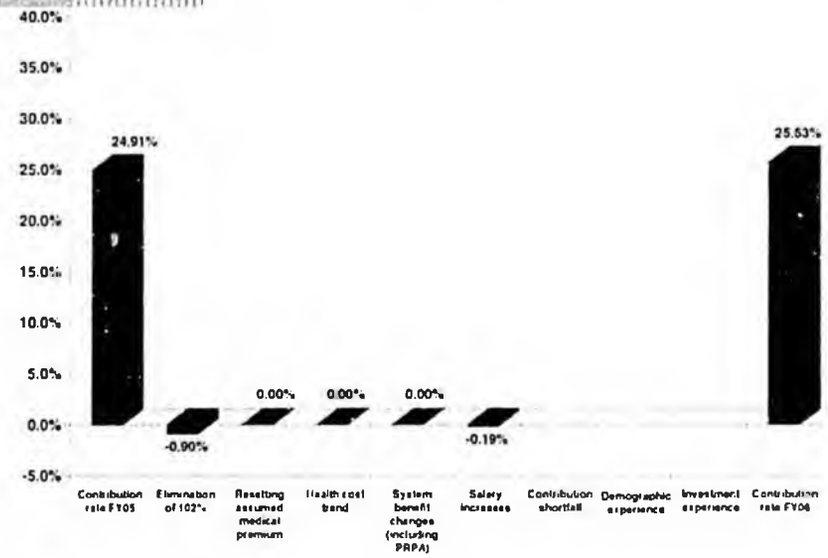
State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



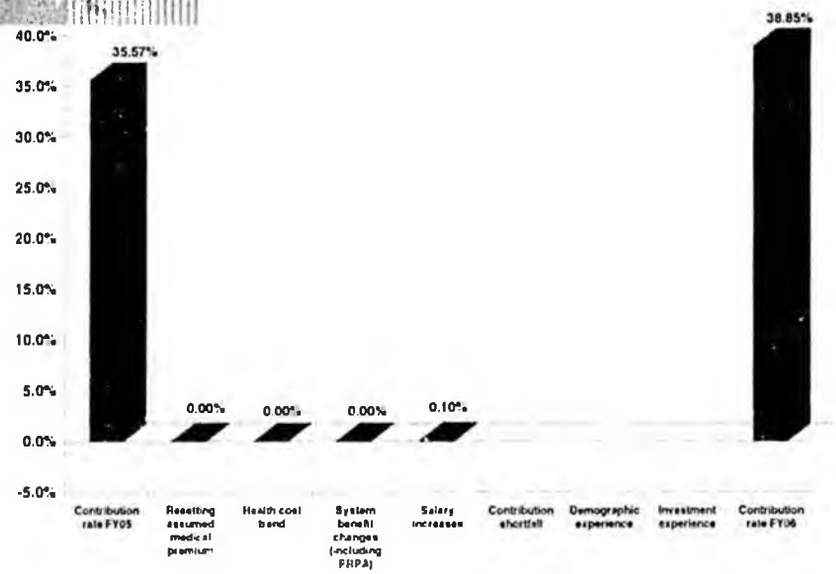
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



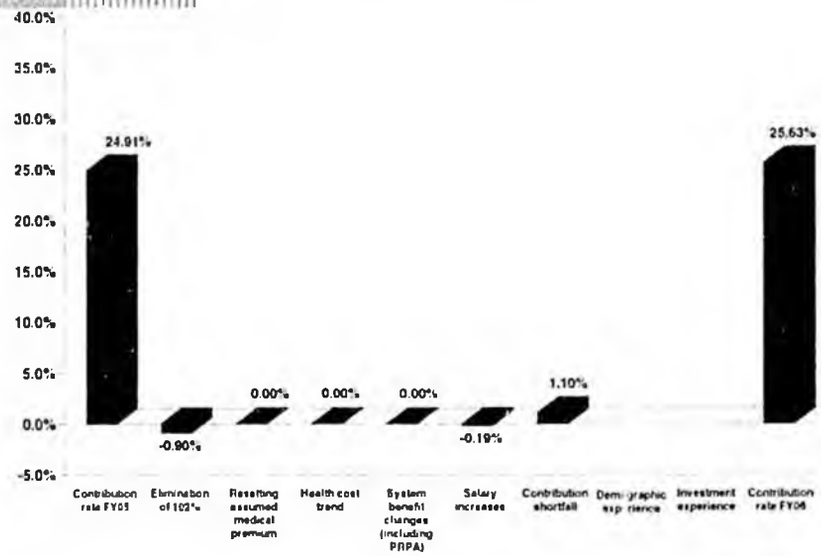
State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



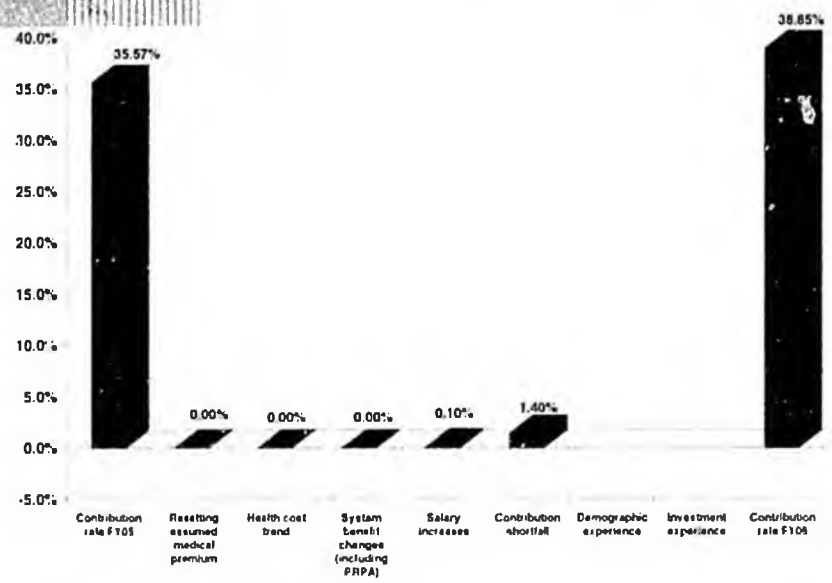
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



State of Alaska - PERS

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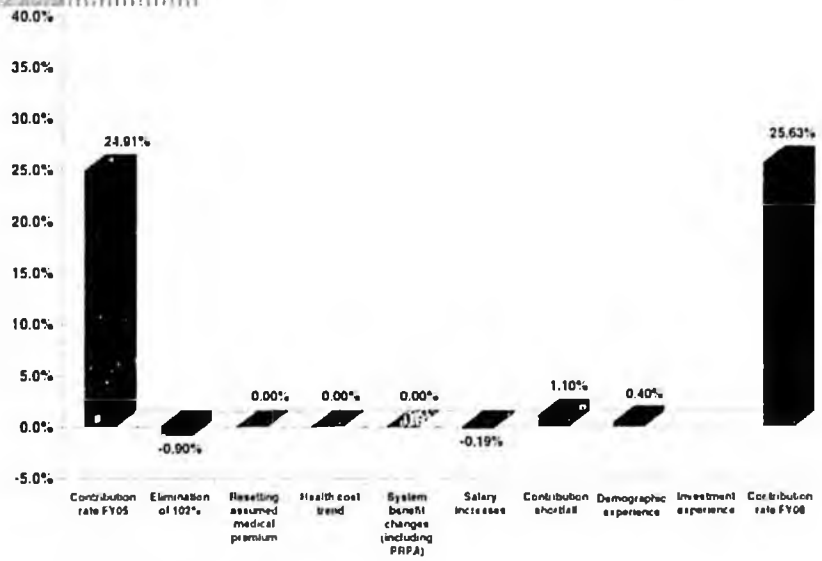
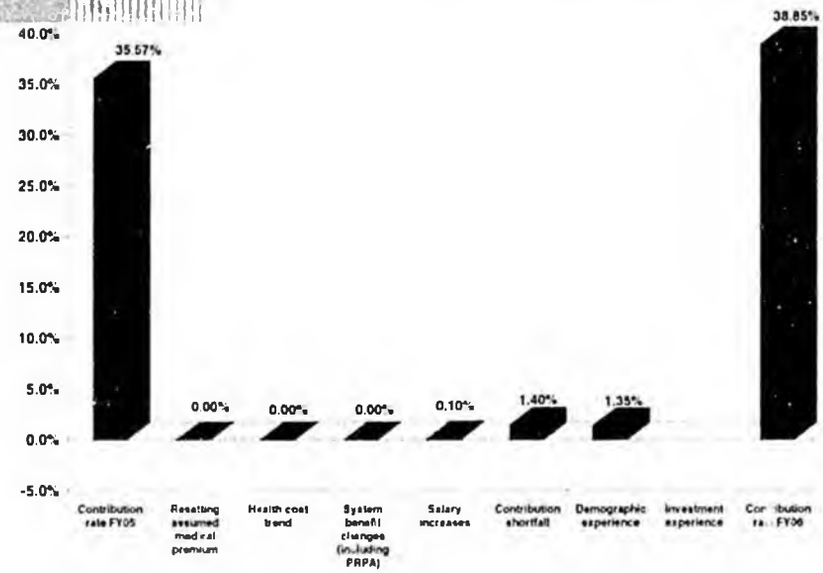


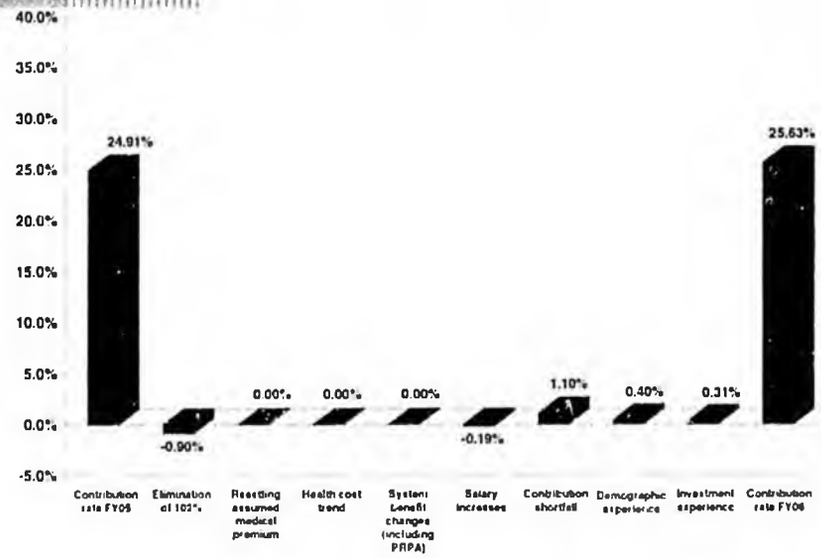
State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



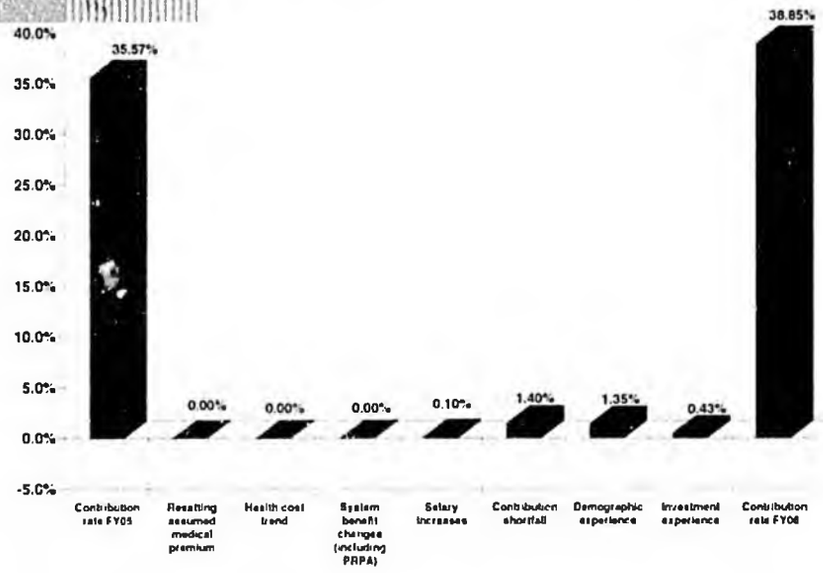
State of Alaska - PERS

Reconciliation of Average Contribution Rate for Fiscal Year 2006



State of Alaska - TRS

Reconciliation of Total Contribution Rate for Fiscal Year 2006



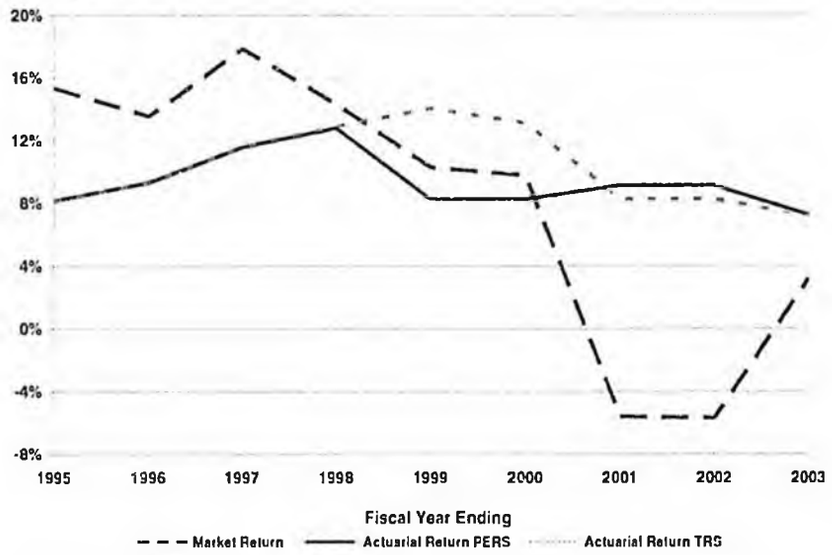
State of Alaska

Development of Valuation Assets

- Valuation assets are assumed to return 8.25% per year.
- Asset valuation method recognizes 20% of the investment gain or loss in each of the current and preceding four years. (Method was reset at June 30, 2002)
- The method defines investment gain or loss as the difference between actual investment return (net of expenses) and the expected return (8.25%) on the actuarial value of assets.
- This method is being phased in over the five years beginning June 30, 2002.
- As of June 30, 2003, the PERS actuarial value of assets equals $7.687 billion and the market value of assets equals $7.391 billion.
- As of June 30, 2003, the TRS actuarial value of assets equals $3.752 billion and the market value of assets equals $3.602 billion.

State of Alaska

Market Return versus Actuarial Return on Assets



Projections

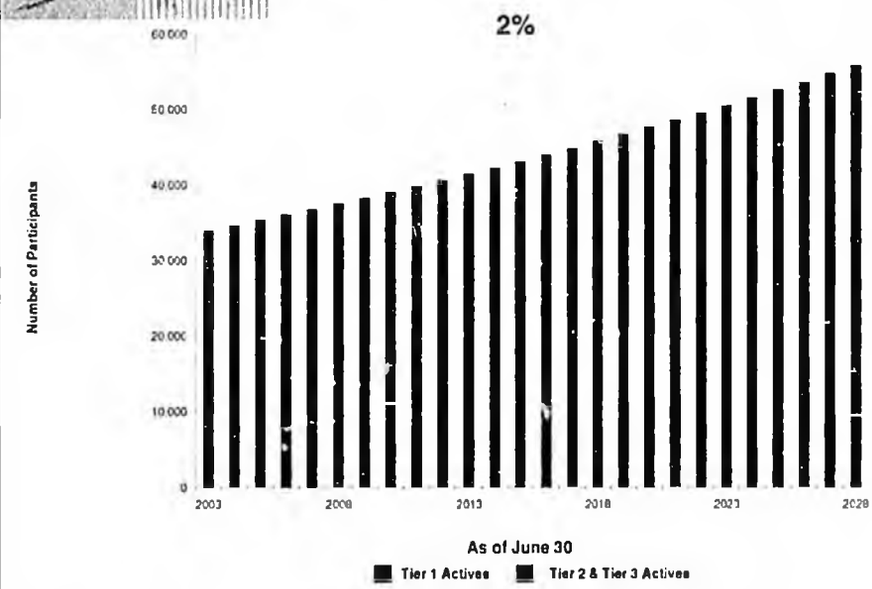
State of Alaska

Projections at Calculated Rate – Key Assumptions

- Three active population scenarios:
  - 0% growth
  - 1% growth
  - 2% growth
- New entrants brought in to replace members assumed to die, terminate, retire, or become disabled
- New entrant profiles based on average new entrant profiles from the prior 3 years
- Future liabilities and asset returns are calculated at 8.25%, except
  - 17% investment return for FY04
- Actuarially calculated contribution rate is adopted each year, beginning in FY06, but rate cannot increase by more than 5% per year for PERS.

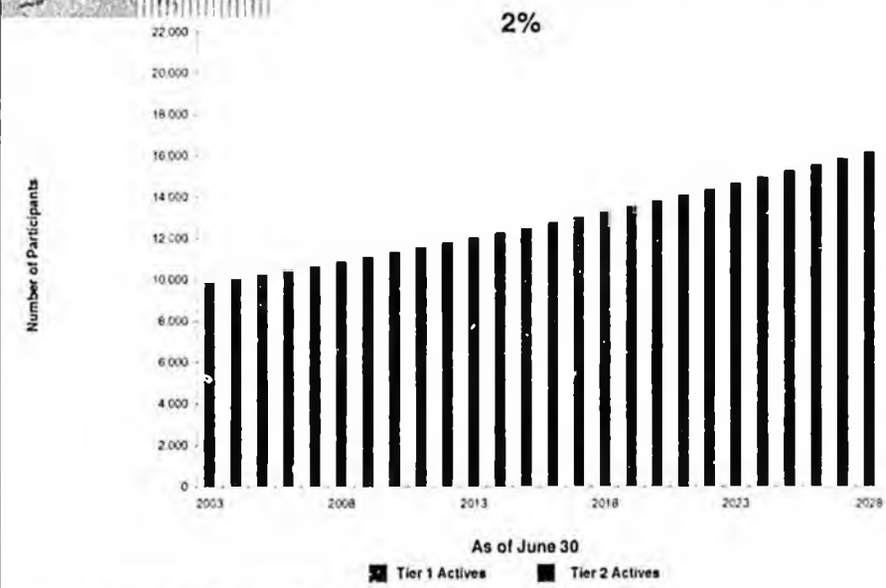
State of Alaska - PERS

Projected Active Participant Count Annual Population Increase



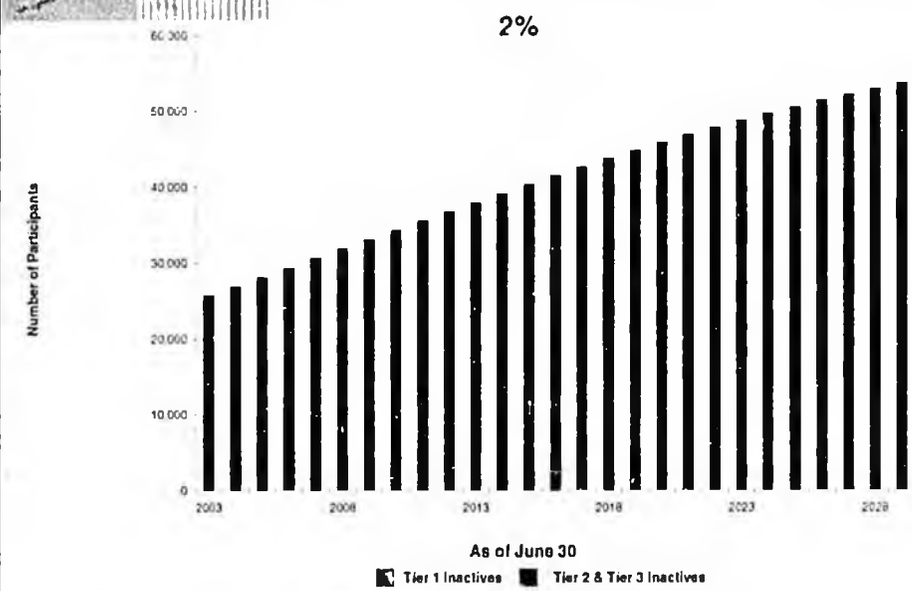
State of Alaska - TRS

Projected Active Participant Count Annual Population Increase



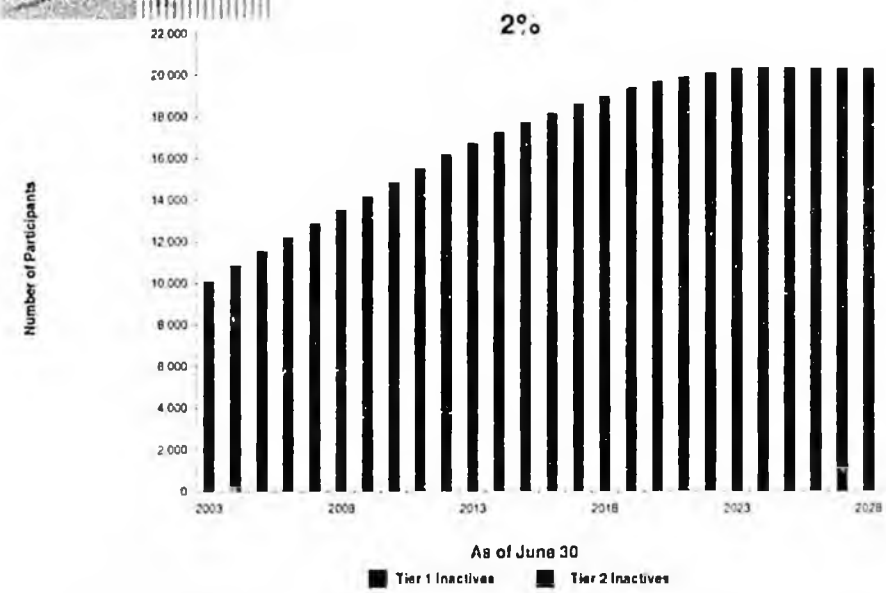
State of Alaska - PERS

Projected Inactive Participant Count Annual Population Increase



State of Alaska - TRS

Projected Inactive Participant Count Annual Population Increase



State of Alaska - PERS

Projections at Calculated Rate – Observations

- Calculated rates increase under all population scenarios
- Calculated rates begin to decline towards end of the projection period under the 1% and 2% scenarios.
- Over the past 9 years, the average annual population increase for the PERS has been 1.1%
- Calculated rates increase to above 30% under the 1% population increase scenario
- Factors contributing to the projected rate increases are:
  - Contributions are less than the actuarially calculated rate for the first 5 years of the projection
  - New entrants enter the System at lower pay levels than the exiting members they are replacing, generating losses and diluting the pay-off of unfunded liabilities
- Funding ratios are at least 96% by the end of the 25-year period, under all 3 population scenarios

State of Alaska - TRS

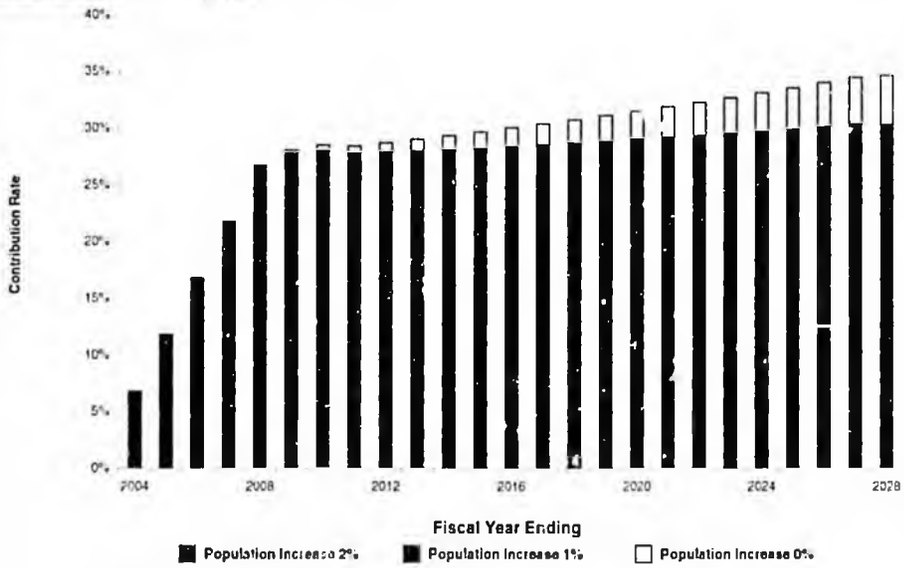
Projections at Calculated Rate – Observations

- Calculated rates increase under all population scenarios
- Calculated rates begin to decline towards end of the projection period under the 1% and 2% scenarios
- Calculated rates increase to 42% even under the 2% population increase scenario
- Factors contribution to the projected rate increases are:
  - Contributions are less than the actuarially calculated rate for the first 2 years of the projection
  - After the first 2 years, there is still a 2-year lag before calculated rates actually enter the System
  - New entrants enter the System at lower pay levels than the exiting members they are replacing, generating losses and diluting the pay-off of unfunded liabilities
- Funding ratios are at least 96% by the end of the 25-year period, under all 3 population scenarios

State of Alaska - PERS

Projections at Calculated Rate

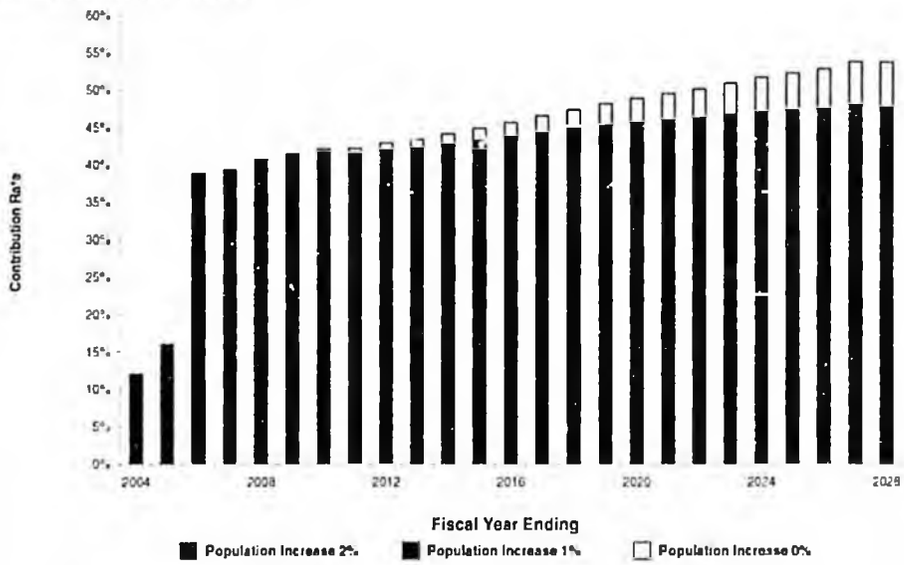
Contribution Rates



State of Alaska - TRS

Projections at Calculated Rate

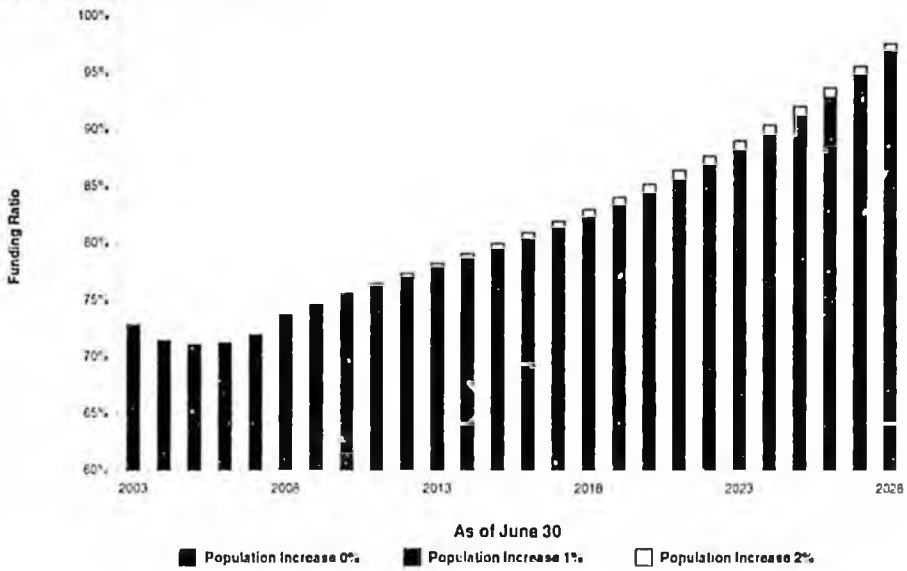
Contribution Rates



State of Alaska - PERS

Projections at Calculated Rate

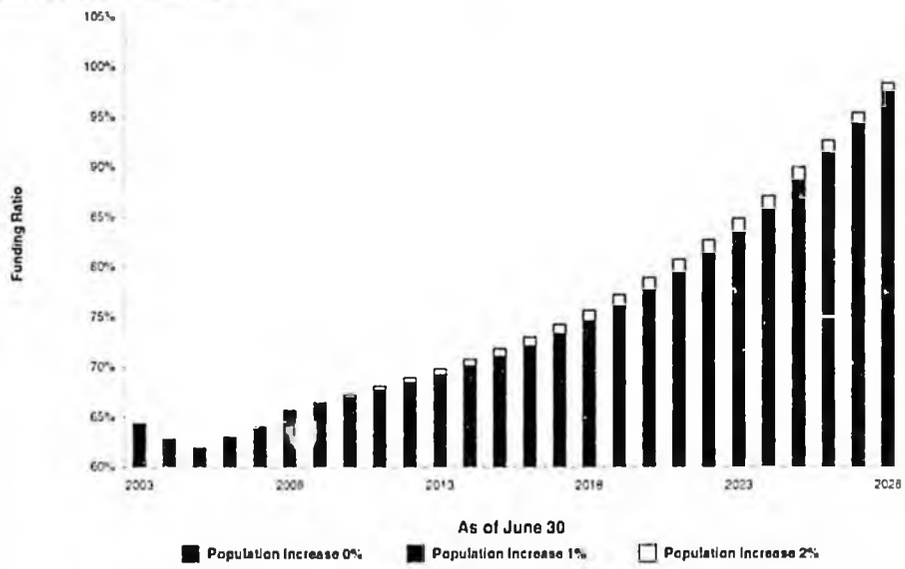
Funding Ratios



State of Alaska - TRS

Projections at Calculated Rate

Funding Ratios



State of Alaska

Projections at Current Rate – Key Assumptions

- Three active population scenarios:
  - 0% growth
  - 1% growth
  - 2% growth
- New entrants brought in to replace members assumed to die, terminate, retire, or become disabled
- New entrant profiles based on average new entrant profiles from the prior 3 years
- Future liabilities and asset returns are calculated at 8.25%, except:
  - 17% investment return for FY04
- Adopted contribution rate is maintained at the FY05 level for all future years.

State of Alaska

Projections at Current Rate – Observations

PERS Observations

- System funding deteriorates under all three population scenarios
- Actuarially calculated rates escalate under all population scenarios
- Assuming 1% population growth, actuarially calculated rates increase to more than 75%, while the funding ratio decreases to 20% by the end of the projection period.

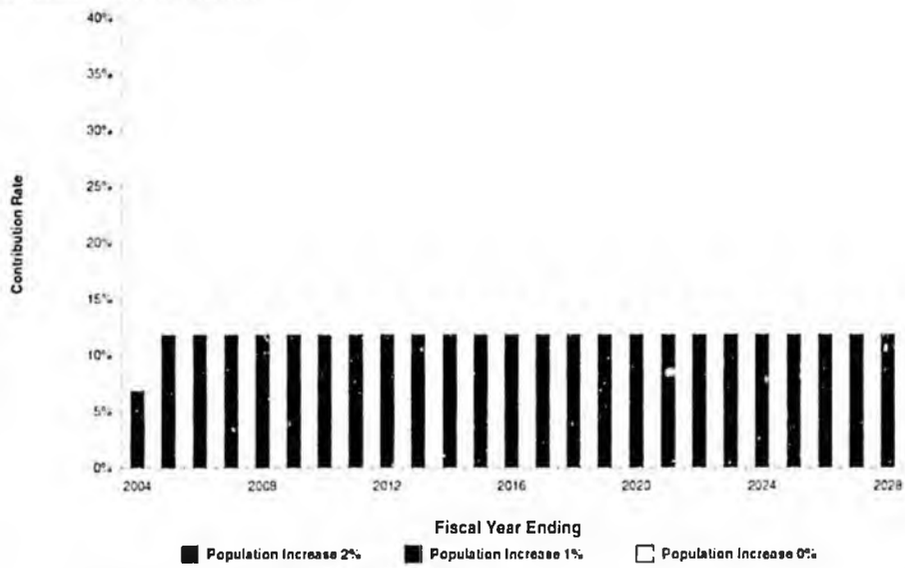
TRS Observations

- System funding deteriorates under all three population scenarios
- Actuarially calculated rates escalate to 90% or more, depending on the population scenario
- Assuming 1% population growth, actuarially calculated rates increase to more than 100%, while the funding ratio decreases to 0% by the end of the projection period.

State of Alaska - PERS

Projections at Current Rate

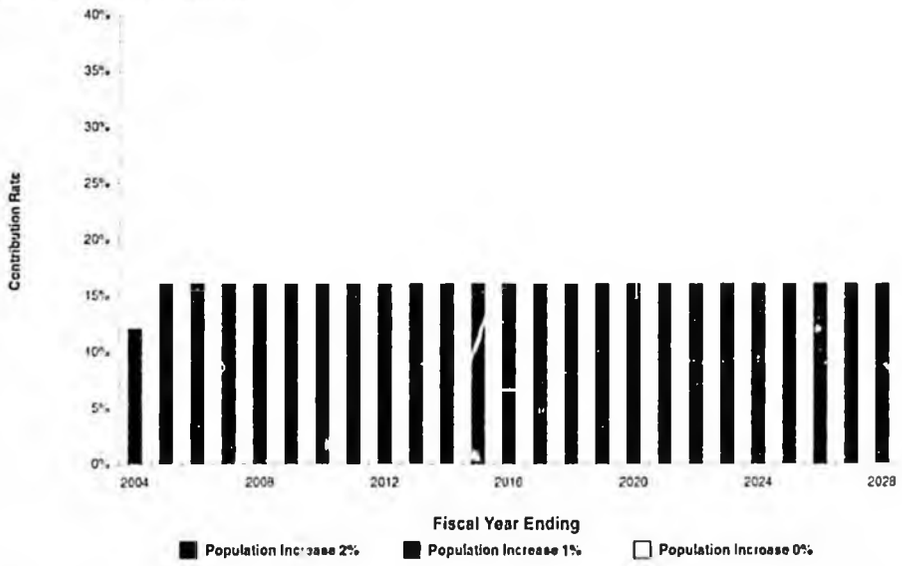
Contribution Rates



State of Alaska - TRS

Projections at Current Rate

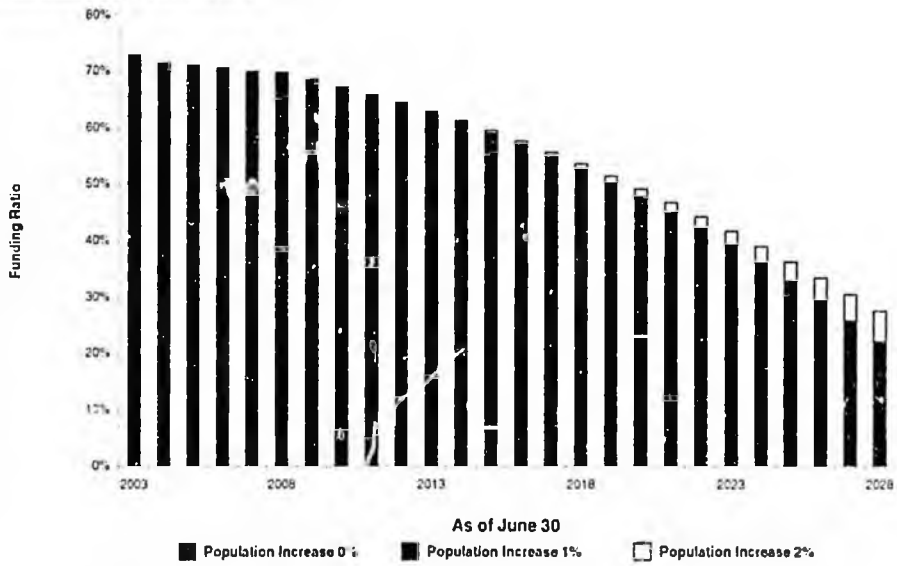
Contribution Rates



State of Alaska - PERS

Projections at Current Rate

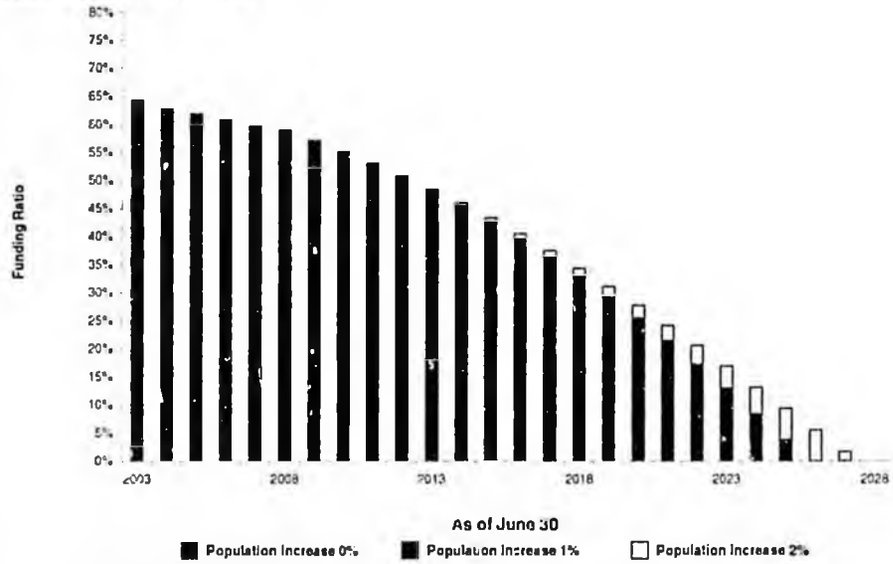
Funding Ratios



State of Alaska - TRS

Projections at Current Rate

Funding Ratios



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State of Alaska

Projections Under Different Economic Scenarios – Key Assumptions

⇨ All assumptions and methods are the same as Section 1.5(a) except:

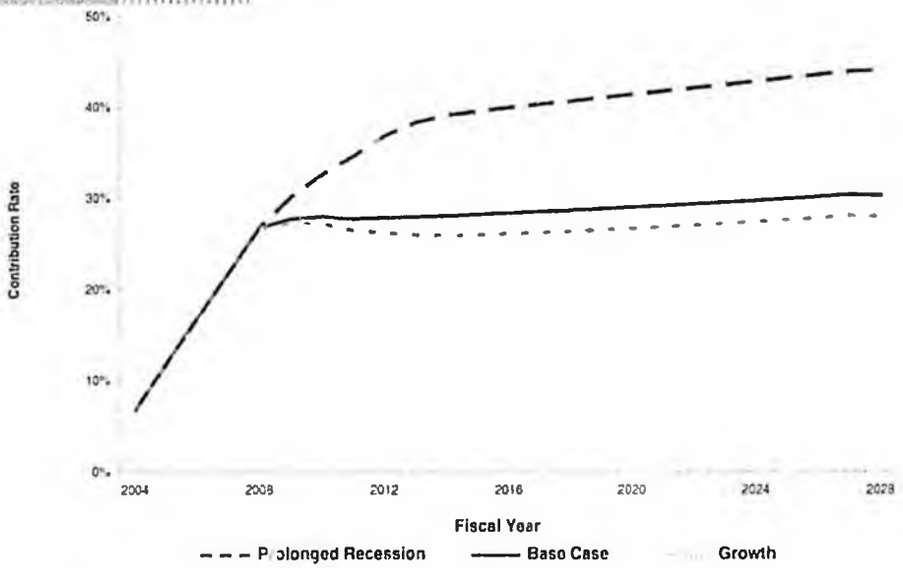
- Results are shown only under the 1% population growth scenario
- The actuarially calculated contribution rate is adopted in each year, beginning in FY06
- Investment returns are assumed as follows:

Total Portfolio Investment Return Under Each Scenario

Year Ending June 30	Base Case	Growth	Prolonged Recession
2004	17.00%	17.00%	17.00%
2005	8.25%	10.00%	-3.50%
2006	8.25%	10.00%	-3.50%
2007	8.25%	9.50%	2.10%
2008	8.25%	9.00%	7.75%
2009	8.25%	8.25%	7.75%
2010+	8.25%	8.25%	7.75%

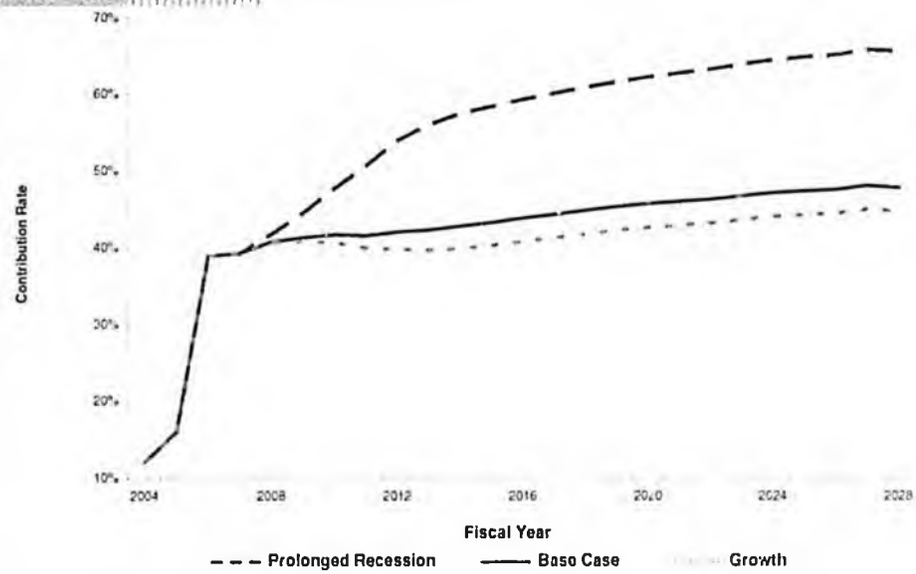
State of Alaska - PERS

Economic Scenarios – Projected Contribution Rates
Annual Population Increase 1%



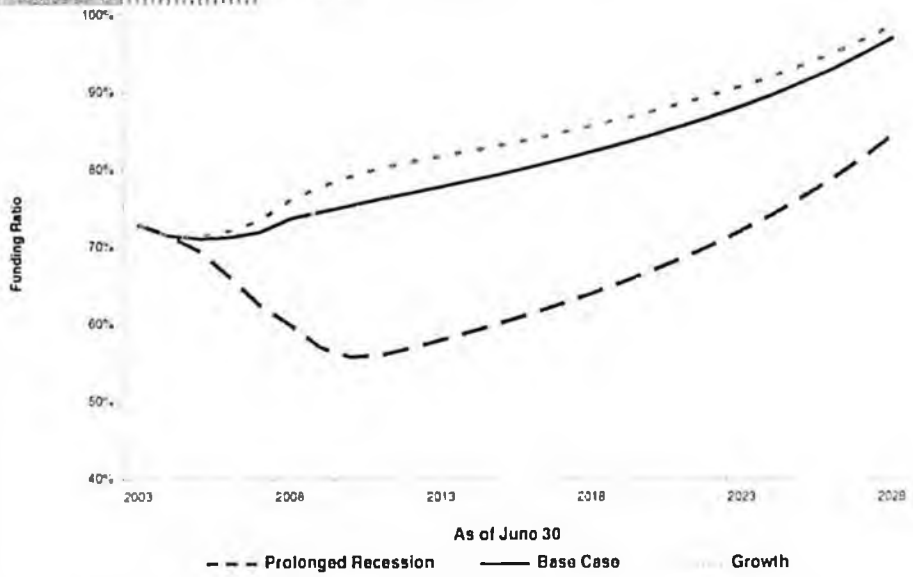
State of Alaska - TRS

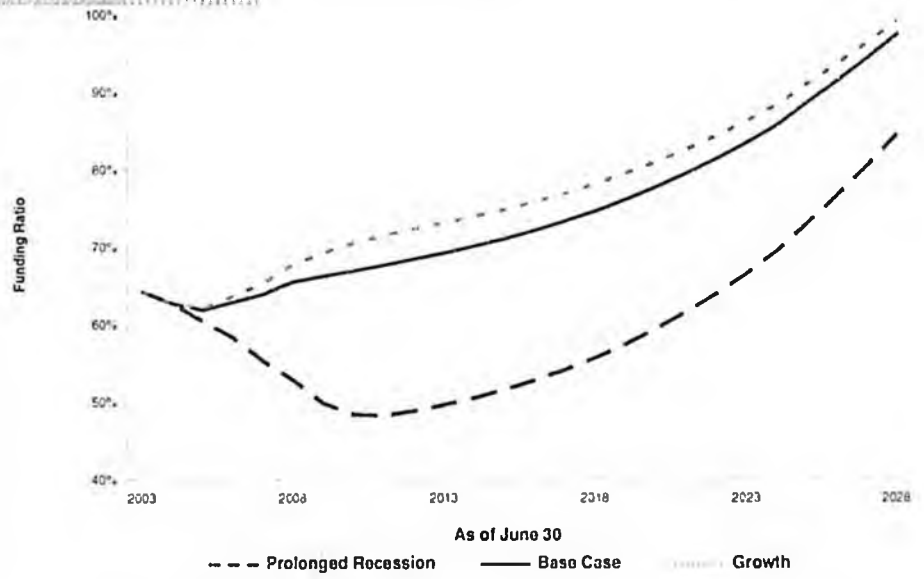
Economic Scenarios – Projected Contribution Rates
Annual Population Increase 1%



State of Alaska - PERS

Economic Scenarios – Projected Funding Ratios
Annual Population Increase 1%



State of Alaska - TRS

Economic Scenarios – Projected Funding Ratios
Annual Population Increase 1%