



REPLACEMENT RATIO STUDY

Preliminary Results

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Agenda

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What Is A Replacement Ratio?

- Absolute Standard of Living:
 - Minimum needs for living
 - Poverty line
- Relative Standard of Living:
 - Maintain pre-retirement standard of living after retirement

■ Replacement Ratio =
$$\frac{\text{Gross Income After Retirement}}{\text{Gross Income Before Retirement}}$$



What Is A Replacement Ratio?

- Income after Retirement – Three Leg Stool
 - Social Security
 - Agency Provided Benefit
 - CalPERS Defined Benefit Plan
 - Other Defined Contribution Plan
 - Personal Savings
 - 457 Plan



What Is A Replacement Ratio?

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What Is A Replacement Ratio?

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CalPERS 2001 Study

- January 2001 Study
- Service Retirement Benefit Only
- CalPERS currently updating - should be available soon
- Criteria:
 - Service at Retirement: 30 years
 - Normal Retirement Age
 - Miscellaneous: 63
 - Safety: 55

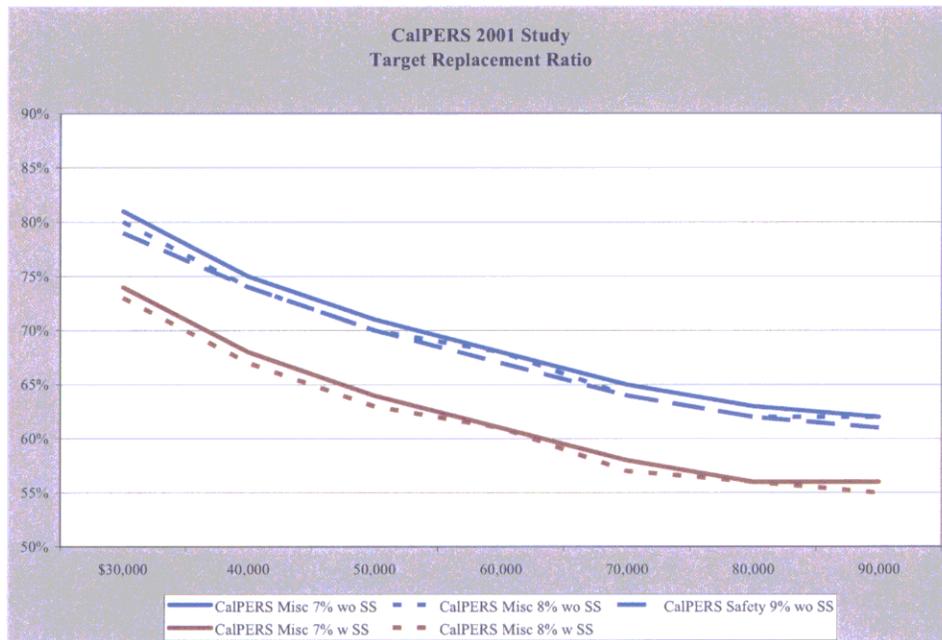


CalPERS 2001 Study

- Target Replacement Benefit defined as:
 - Gross Pre-retirement Salary
 - Less* Social Security Payroll Tax if applicable
 - Less* Income Tax
 - Less* EE Retirement Contribution
 - Less* Personal Savings
 - Less* Age/Work Related Adjustments
- Target Replacement Ratio =
$$\frac{\text{Target Replacement Benefit}}{\text{Gross Income Before Retirement}}$$



CalPERS 2001 Study



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CalPERS 2001 Study

- Actual Replacement Income Defined as:

CalPERS Retirement Benefit

Less Adjustment for Joint & 100% Survivor

Less Income Taxes

Plus Social Security Benefit, if Applicable

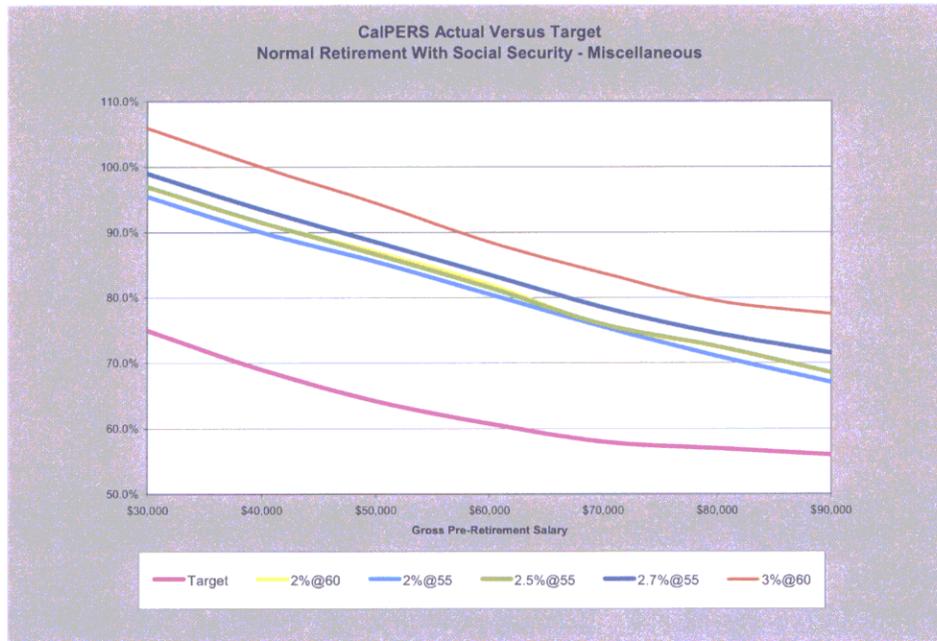
- Actual Replacement Ratio =
$$\frac{\text{Actual Replacement Income}}{\text{Gross Income Before Retirement}}$$



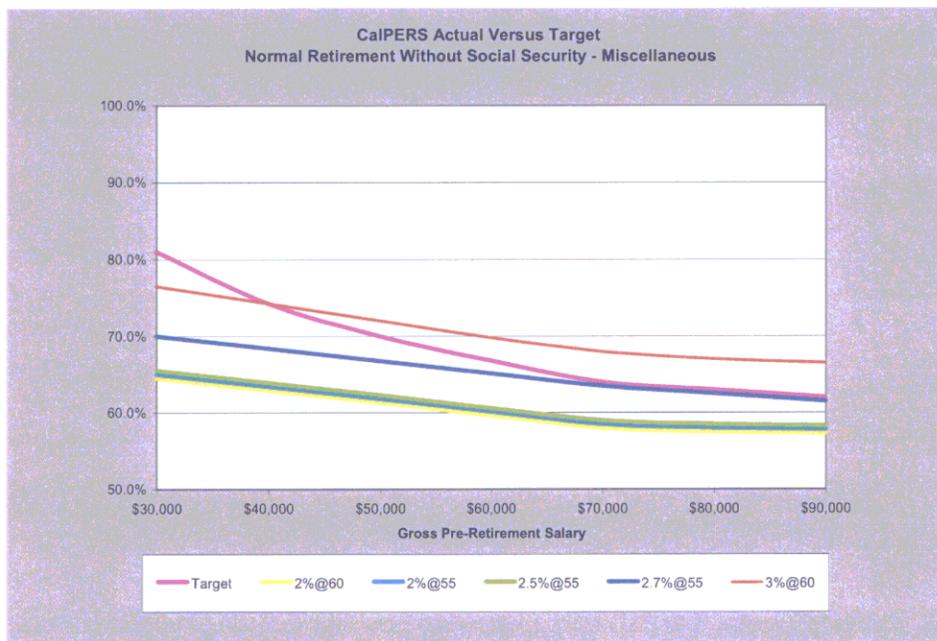
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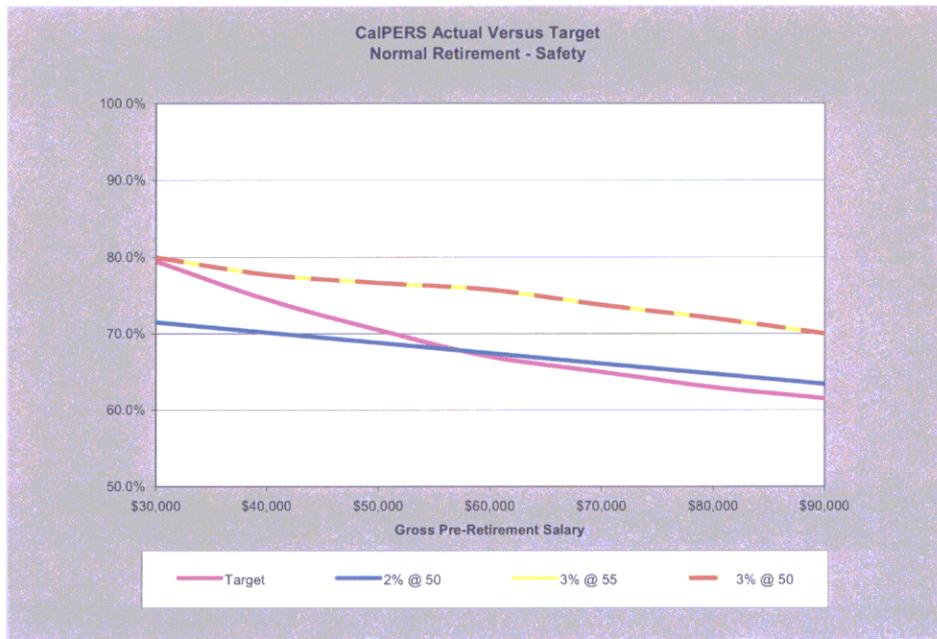
CalPERS 2001 Study



CalPERS 2001 Study



CalPERS 2001 Study



CalPERS 2001 Study

- Does not include personal savings (e.g. 457 plan)
- Not sure about EPMC?
- Without Social Security Actual Replacement Ratio is “close” to Target
- Miscellaneous with Social Security:
 - Actual Replacement Ratio significantly exceeds Target
- Miscellaneous without Social Security:
 - Except for 3% @ 60, Actual Replacement Ratio below Target Replacement Ratio for all income levels
- Safety without Social Security:
 - 3% @ 55 and 3% @ 50 exceeds Target Replacement Ratio for all income levels
 - 2% @ 50 > \$50,000 meets Target Replacement Ratio

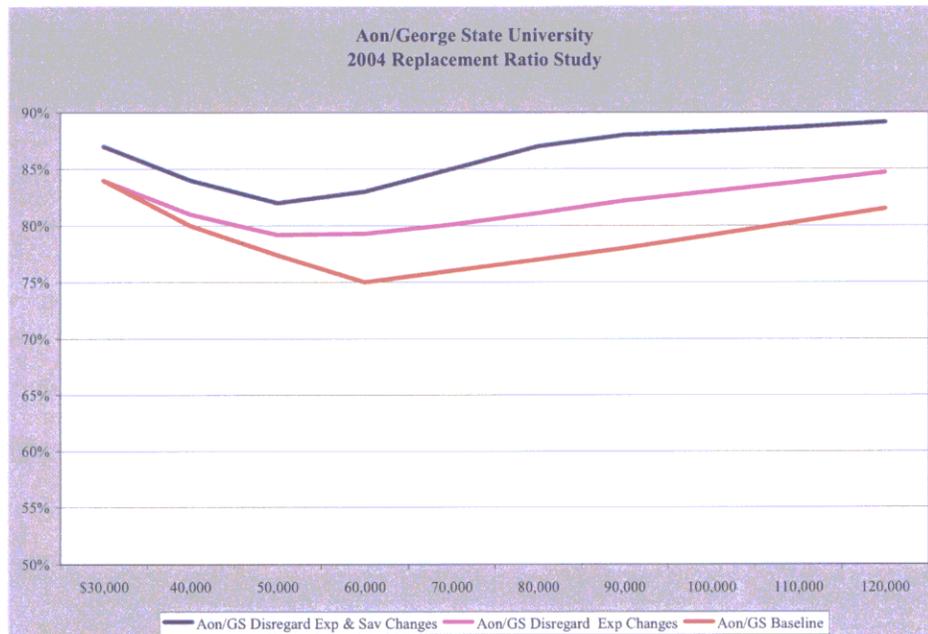


Aon/George State University 2004 Replacement Ratio Study

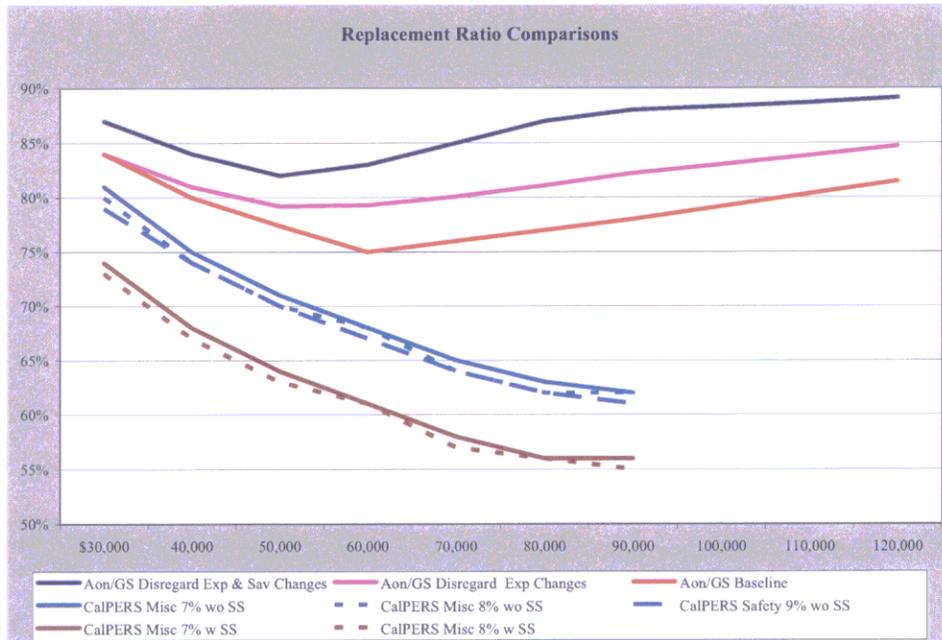
- First completed in 1988, 6th update in 2004
- Analyzes replacement ratio needed to maintain pre-retirement standard of living after retirement
- Baseline Case:
 - One wage earner
 - Retired at age 65, with spouse age 62
 - Eligible for family social security benefit (1.362 times of the wage earner's benefit)
 - Takes into account:
 - Age/Work related expenditure changes after retirement
 - Pre-retirement savings patterns
 - Changes in taxes after retirement
- Data sources
 - *Consumer Expenditure Survey*, US Department of Labor
 - *Flow of Funds Accounts of the United States*, Federal Reserve



Aon/George State University 2004 Replacement Ratio Study



CalPERS vs. Aon/George State University



CalPERS vs. Aon/George State University

| | <u>CalPERS</u> | <u>Aon/Georgia State</u> |
|-------------------------------|-------------------|-------------------------------|
| ■ Normal Retirement Age | 63/55 | 65 |
| ● Affects: | | |
| □ Social Security benefit | | |
| □ Income taxes | | |
| ■ Social Security | ? | Family |
| ■ Wage earners | ? | One Wage Earner/ Family |
| ■ Employee contribution, | Yes, by Plan | None |
| ■ Joint & survivor protection | J & 100% Survivor | ? |
| ■ Personal Savings | 4-5% | 2-5% based on salary level |



Variables

| Variables | Options | Comments |
|-------------------------|---|---|
| ■ Service at Retirement | Max 35 years | Career employee |
| ■ Age at Retirement | Miscellaneous: 50 -65 Safety: 50 – 60 | CalPERS averages Miscellaneous: 59-61 Safety Fire: 55 -57 Safety Police: 54 - 56 |
| ■ Salary Scale | C – Constant M – CalPERS Misc. P – CalPERS Police F – CalPERS Fire | CalPERS CPI: 3% & inflation component of salary scale: 3.25% Based on CalPERS 1997- 2002 Experience study |



Variables

| Variables | Options | Comments |
|---------------------------|------------------|--|
| ■ Overtime Pay | % of Pay | Overtime Pay is not PERSable Increases Social Security Benefit |
| ■ COLA | 2-5% | 2% for most CalPERS agencies |
| ■ Employee Pays Contr. | Y- Yes N - No | Impacts Target replacement Ratio |
| ■ EPMC Included | Y- Yes N - No | Includes EPMC in CalPERS benefit calculation Does not affect DC benefits or Social Security |



Variables

| Variables | Options | Comments |
|-------------------|--|--|
| ■ Social Security | Y – Yes N – No | Actual Ratio includes Social Security & Target Ratio Adjusts for Employee Portion of Payroll Taxes |
| ■ CalPERS formula | 1 – 2%@60 2 – 2%@55 3 – 2.5%@55 4 – 2.7%@55 5 – 3%@60 6 – 2%@50 7 – 3%@55 8 – 3%@50 | |



Variables

| Variables | Options | Comments |
|-----------------------------------|-------------------|--|
| ■ J& 100% Survivor | 1 2 | Converts single life benefit to J&100%S Converts J&25%S (w SS) or J&50%S (w/o SS) to J&S 100% |
| ■ Highest Year | Y – Yes N - No | Highest 12 months Highest 36 months |
| ■ Annuity Purchase Rate | 4% - 8% | Used in 457 & DC plan annuity conversion |
| ■ Contribution Rate | % of Pay | Er contribution only |
| ■ Other Defined Contribution Plan | Y – Yes N - No | Other DC plan eligible No other DC plan |
| ■ Investment Return | 4% - 10% | Used in 457 & DC plan account accumulation |

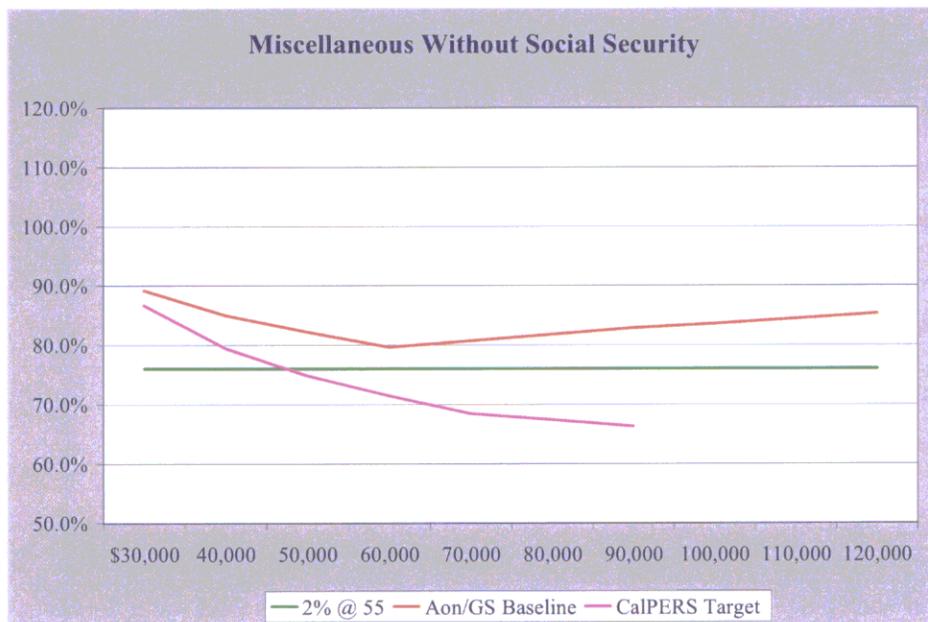


Miscellaneous – 2%@55 – No Social Security

| Variables | Graph |
|-----------------------------------|--------------------------------------|
| ■ Service at Retirement | 30 years |
| ■ Age at Retirement | 60 |
| ■ Salary Scale | M – CalPERS Misc. |
| ■ Overtime Pay | 5% of Pay |
| ■ COLA | 2% |
| ■ Employee Pays Contr. | No |
| ■ EPMC Included | Yes |
| ■ Social Security | No |
| ■ CalPERS formula | 2%@55 |
| ■ J& 100% Survivor | Converts J&50%S (w/o SS) to J&S 100% |
| ■ Highest Year | No |
| ■ Annuity Purchase Rate | 5% |
| ■ Contribution Rate (457 Plan) | 6% of Pay |
| ■ Other Defined Contribution Plan | No |
| ■ Investment Return | 6% |



Miscellaneous – 2%@55 – No Social Security

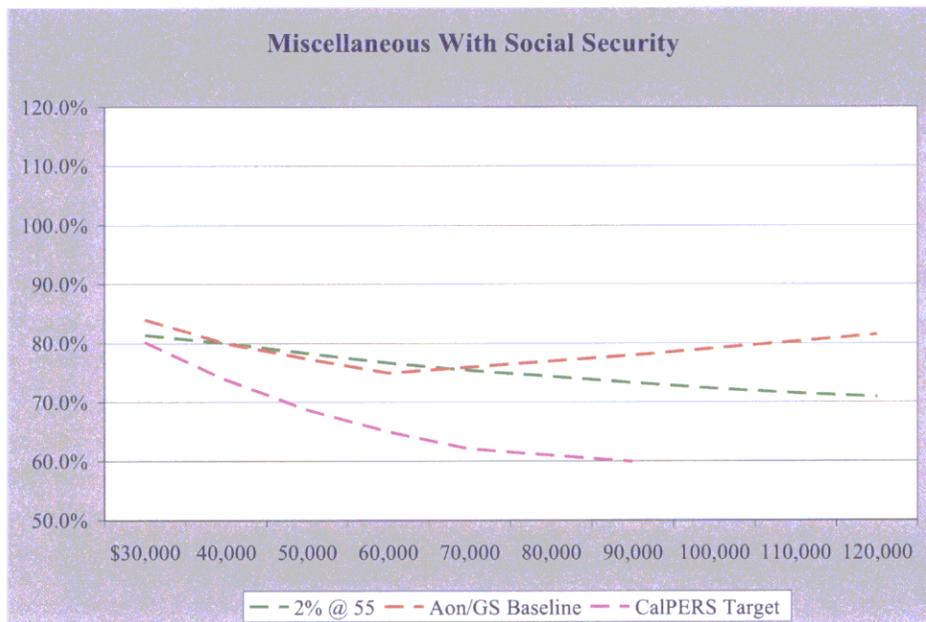


Miscellaneous – 2%@55 – With Social Security

| Variables | Graph |
|-----------------------------------|------------------------------------|
| ■ Service at Retirement | 30 years |
| ■ Age at Retirement | 60 |
| ■ Salary Scale | M – CalPERS Misc. |
| ■ Overtime Pay | 5% of Pay |
| ■ COLA | 2% |
| ■ Employee Pays Contr. | No |
| ■ EPMC Included | Yes |
| ■ Social Security | Yes |
| ■ CalPERS formula | 2%@55 – less 50% SS Benefit |
| ■ J& 100% Survivor | Converts J&25%S (w SS) to J&S 100% |
| ■ Highest Year | No |
| ■ Annuity Purchase Rate | 5% |
| ■ Contribution Rate (457 Plan) | No |
| ■ Other Defined Contribution Plan | No |
| ■ Investment Return | 6% |



Miscellaneous – 2%@55 – With Social Security

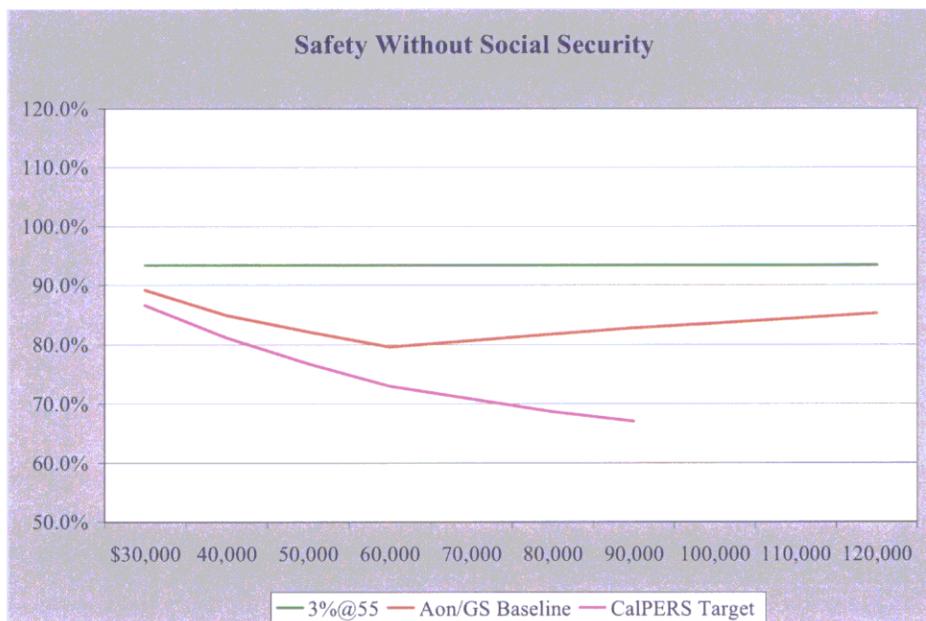


Safety – 3%@55 – No Social Security

| Variables | Graph |
|-----------------------------------|--------------------------------------|
| ■ Service at Retirement | 30 years |
| ■ Age at Retirement | 55 |
| ■ Salary Scale | P – CalPERS Police. |
| ■ Overtime Pay | 10% of Pay |
| ■ COLA | 2% |
| ■ Employee Pays Contr. | No |
| ■ EPMC Included | Yes |
| ■ Social Security | No |
| ■ CalPERS formula | 3%@55 |
| ■ J& 100% Survivor | Converts J&50%S (w/o SS) to J&S 100% |
| ■ Highest Year | No |
| ■ Annuity Purchase Rate | 5% |
| ■ Contribution Rate (457 Plan) | 6% of Pay |
| ■ Other Defined Contribution Plan | No |
| ■ Investment Return | 6% |



Safety – 3%@55 – No Social Security

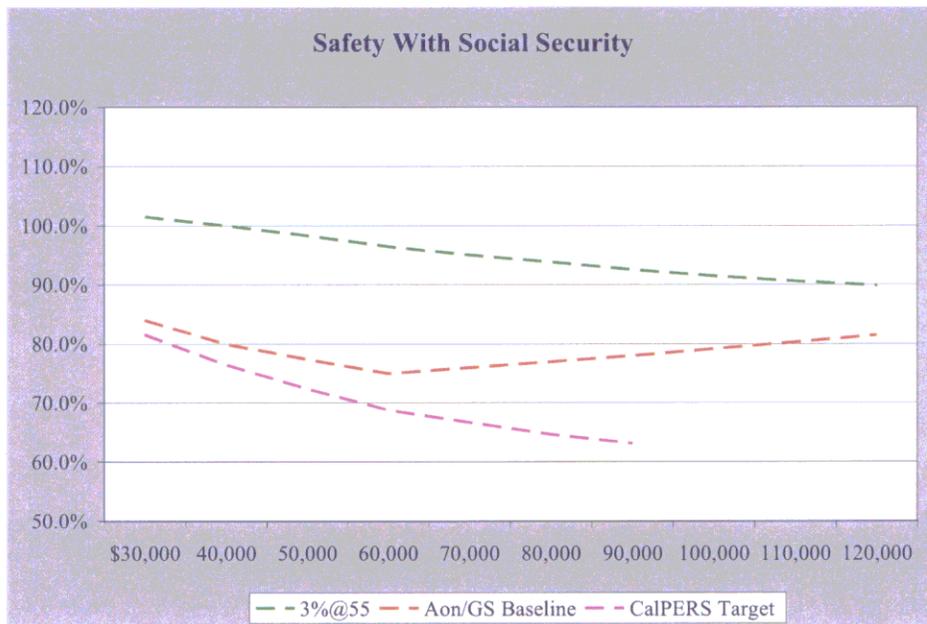


Safety – 3%@55 – With Social Security

| Variables | Graph |
|-----------------------------------|------------------------------------|
| ■ Service at Retirement | 30 years |
| ■ Age at Retirement | 55 |
| ■ Salary Scale | P – CalPERS Police. |
| ■ Overtime Pay | 10% of Pay |
| ■ COLA | 2% |
| ■ Employee Pays Contr. | No |
| ■ EPMC Included | Yes |
| ■ Social Security | Yes |
| ■ CalPERS formula | 3%@55 – less 50% SS Benefit |
| ■ J& 100% Survivor | Converts J&25%S (w SS) to J&S 100% |
| ■ Highest Year | No |
| ■ Annuity Purchase Rate | 5% |
| ■ Contribution Rate (457 Plan) | No |
| ■ Other Defined Contribution Plan | No |
| ■ Investment Return | 6% |



Safety – 3%@55 – With Social Security



Safety – 2%@50 – No Social Security

| Variables | Graph |
|-----------------------------------|--------------------------------------|
| ■ Service at Retirement | 30 years |
| ■ Age at Retirement | 55 |
| ■ Salary Scale | P – CalPERS Police. |
| ■ Overtime Pay | 10% of Pay |
| ■ COLA | 2% |
| ■ Employee Pays Contr. | No |
| ■ EPMC Included | Yes |
| ■ Social Security | No |
| ■ CalPERS formula | 2%@50 |
| ■ J& 100% Survivor | Converts J&50%S (w/o SS) to J&S 100% |
| ■ Highest Year | No |
| ■ Annuity Purchase Rate | 5% |
| ■ Contribution Rate (457 Plan) | 6% of Pay |
| ■ Other Defined Contribution Plan | No |
| ■ Investment Return | 6% |



Safety – 2%@50 – No Social Security



Safety – 2%@50 – With Social Security

| Variables | Graph |
|-----------------------------------|------------------------------------|
| ■ Service at Retirement | 30 years |
| ■ Age at Retirement | 55 |
| ■ Salary Scale | P – CalPERS Police. |
| ■ Overtime Pay | 10% of Pay |
| ■ COLA | 2% |
| ■ Employee Pays Contr. | No |
| ■ EPMC Included | Yes |
| ■ Social Security | Yes |
| ■ CalPERS formula | 2%@50 – less 50% SS Benefit |
| ■ J& 100% Survivor | Converts J&25%S (w SS) to J&S 100% |
| ■ Highest Year | No |
| ■ Annuity Purchase Rate | 5% |
| ■ Contribution Rate (457 Plan) | No |
| ■ Other Defined Contribution Plan | No |
| ■ Investment Return | 6% |



Safety – 2%@50 – With Social Security

