# PERS Retirement Plan

## HB 1121 Amendment

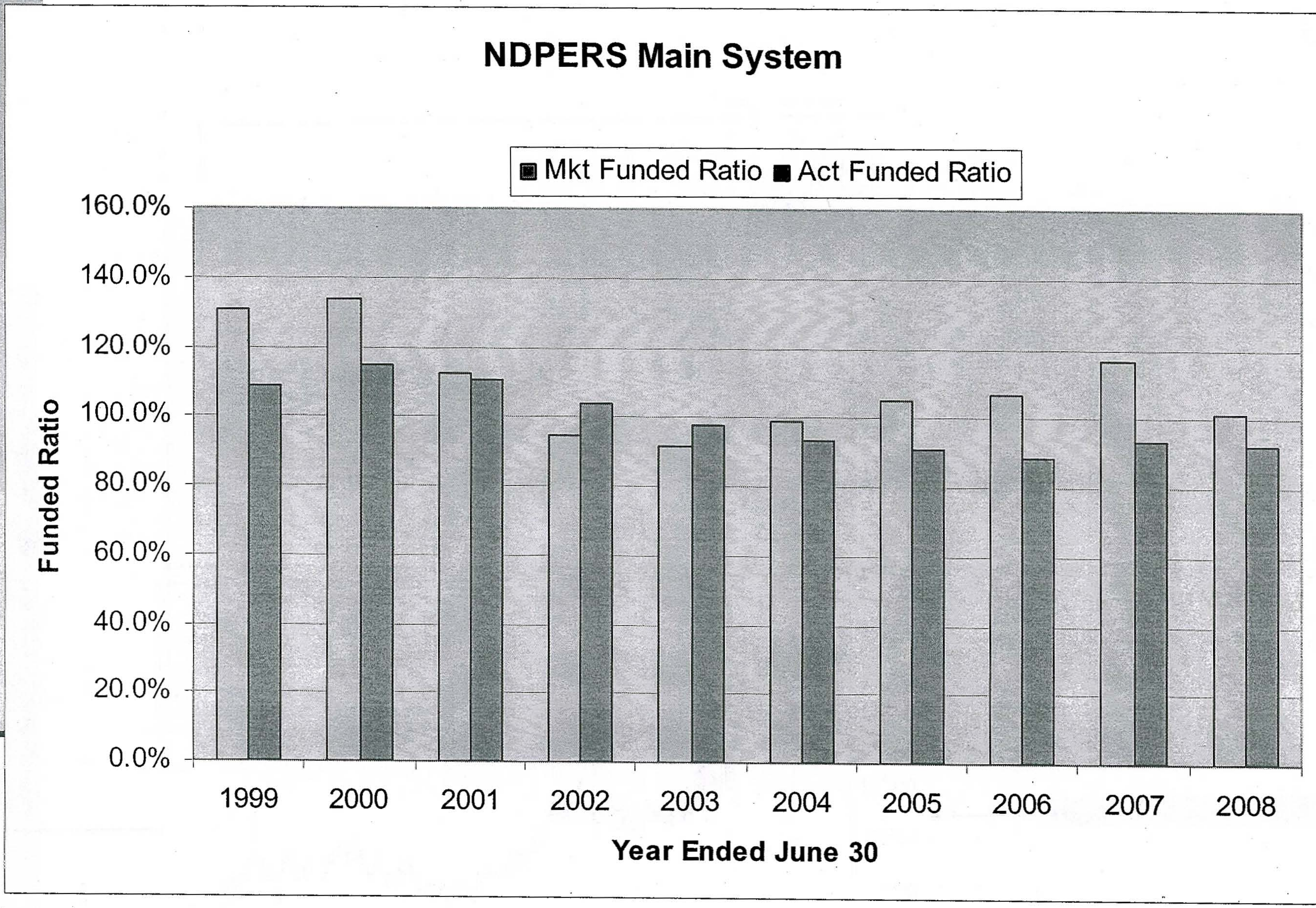


APPENDIX B

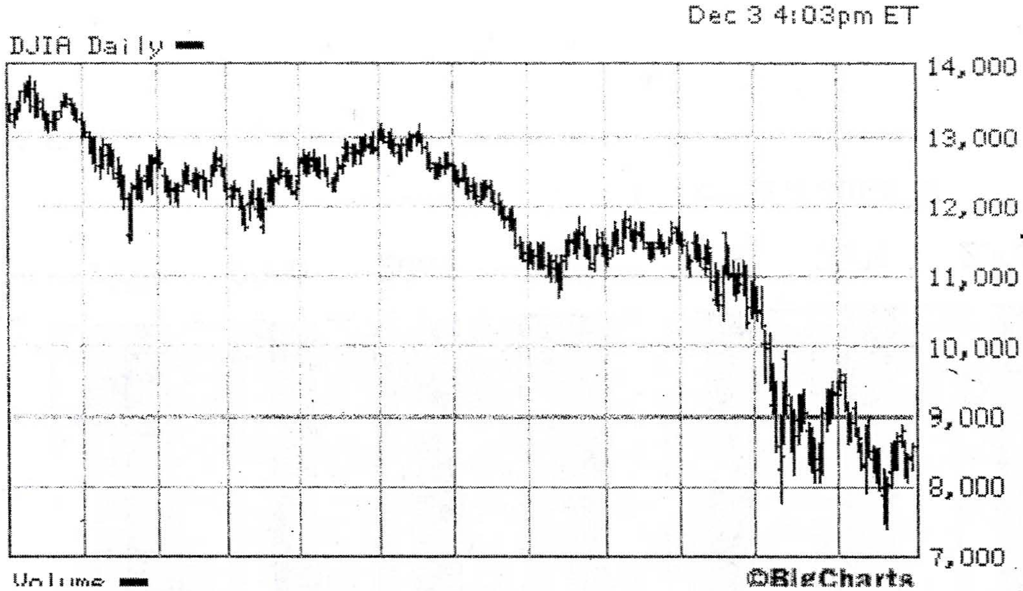
# Main - Funded Ratio

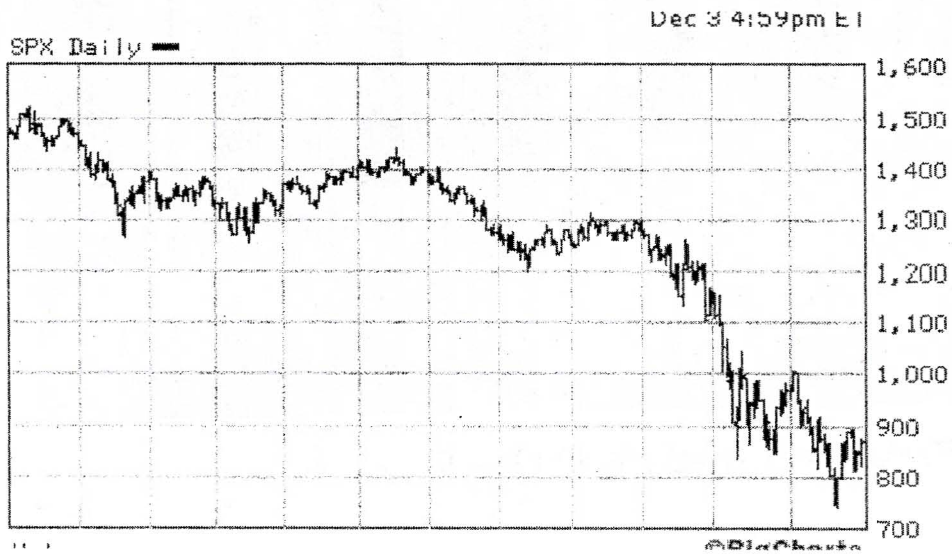
| Year | Actuarial Accrued Liabilities (millions) | Actuarial Value of Assets (millions) | Funded Ratio |
|---|---|---|---|
| 1999 | $831 | $901 | 109% |
| 2000 | 879 | 1,010 | 115% |
| 2001 | 994 | 1,096 | 110% |
| 2002 | 1,087 | 1,130 | 104% |
| 2003 | 1,170 | 1,145 | 98% |
| 2004 | 1,251 | 1,172 | 94% |
| 2005 | 1,333 | 1,210 | 91% |
| 2006 | 1,450 | 1,286 | 89% |
| 2007 | 1,576 | 1,470 | 93% |
| 2008 | 1,700 | 1,571 | 92% |

1. The 2008 actuarial employer contribution rate 6.23% compared with the statutory rate of 4.12% (-2.11)
2. In 2008 was Funded Ratio at market value is 101% in 2008

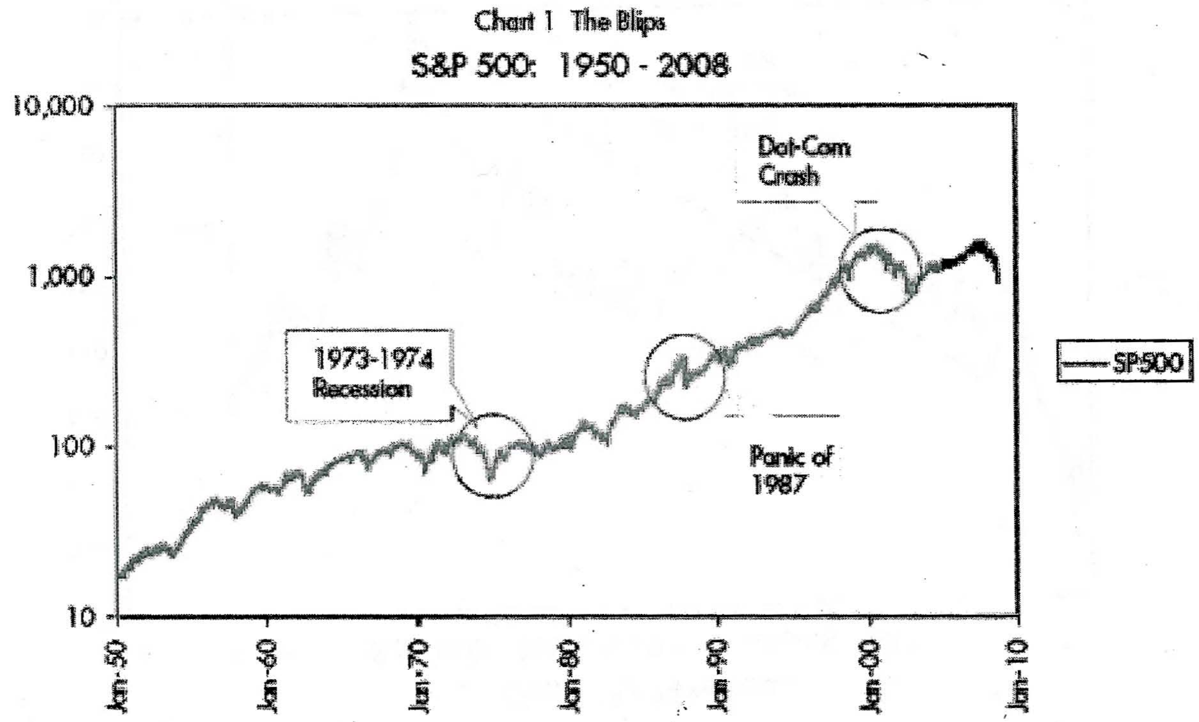


NDPERS Main System
Mkt Funded Ratio
Act Funded Ratio
Funded Ratio
160.0%
140.0%
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year Ended June 30


Dec 3 4:03pm ET
DJIA Daily
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
Volume
©BigCharts

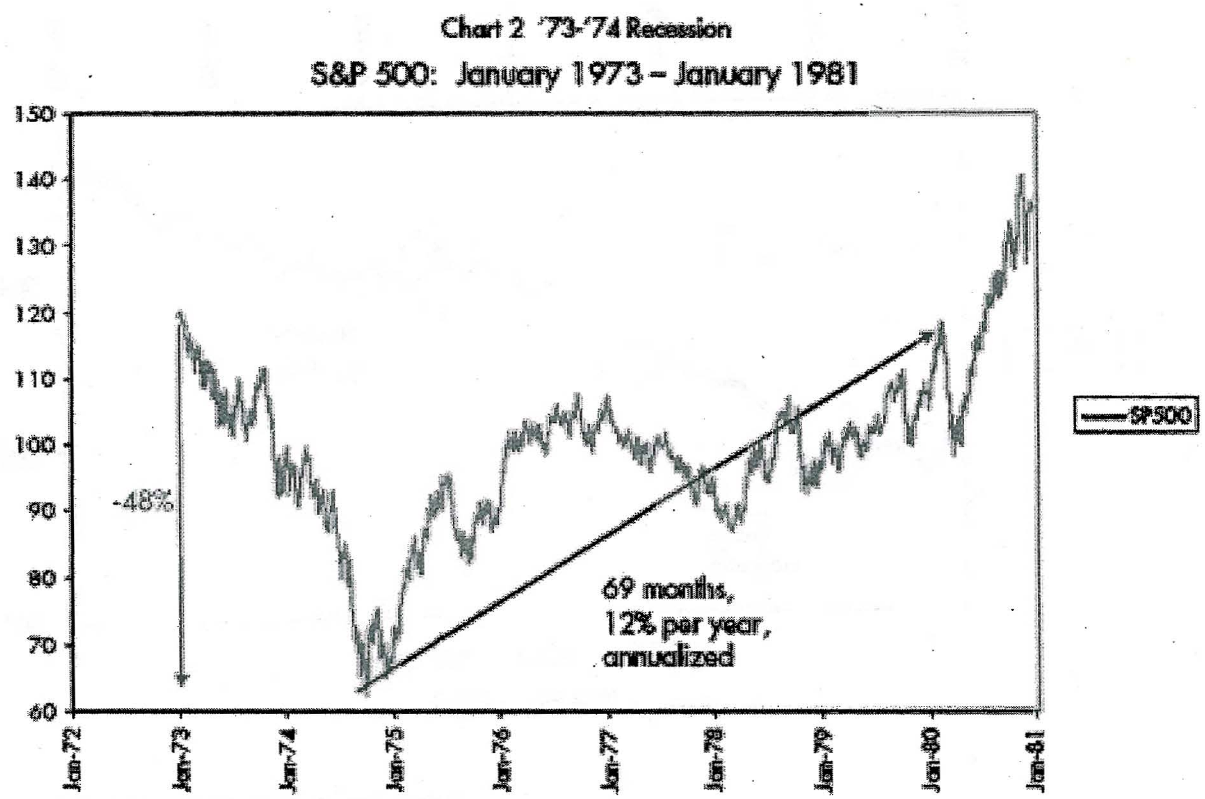

Dec 3 4:59pm ET
SPX Daily
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700

# The Long View: Major Market Declines and Recoveries



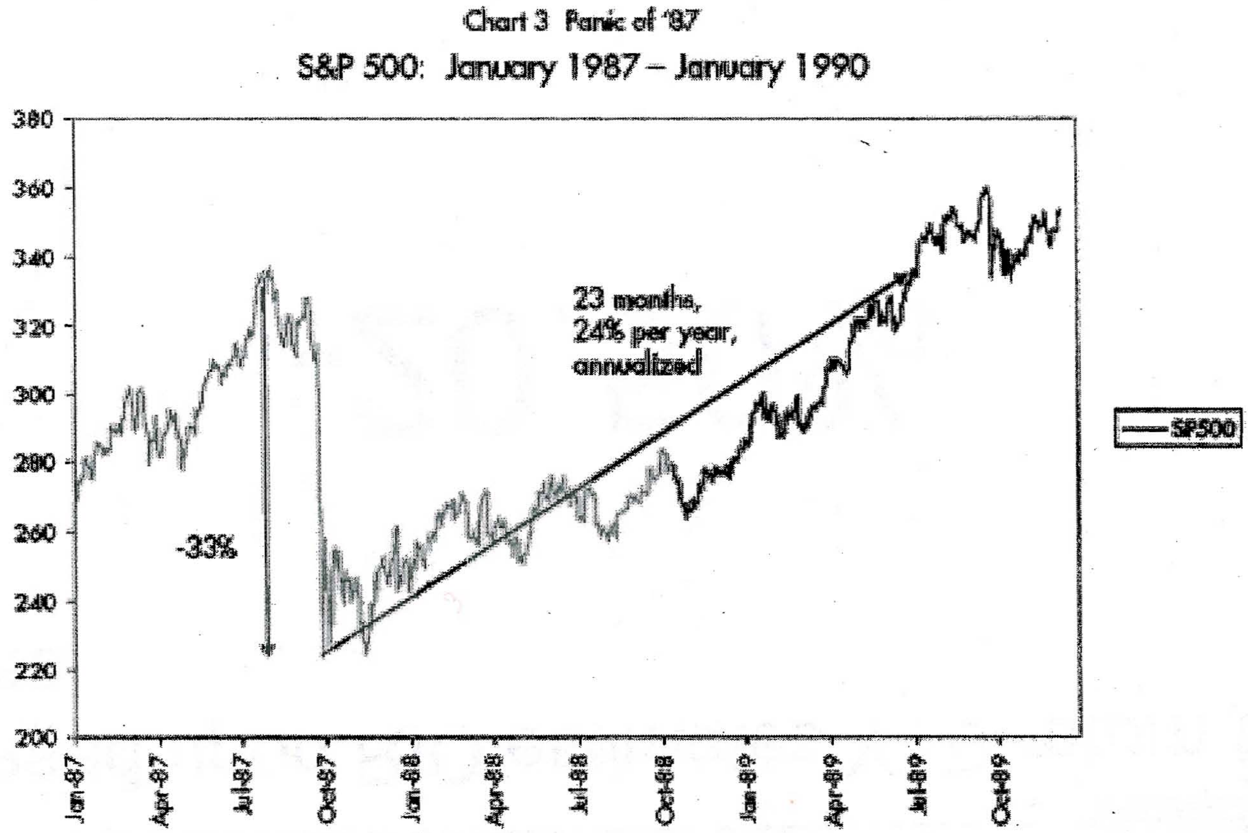

- Reproduced from Martingale Asset Management, October 10, 2008.

# Scenario 1: 1973-74 Recession and the Long Road Back




* Reproduced from Martingale Asset Management, October 10, 2008.

# Scenario 2: 1987 Crash




* Reproduced from Martingale Asset Management, October 10, 2008.

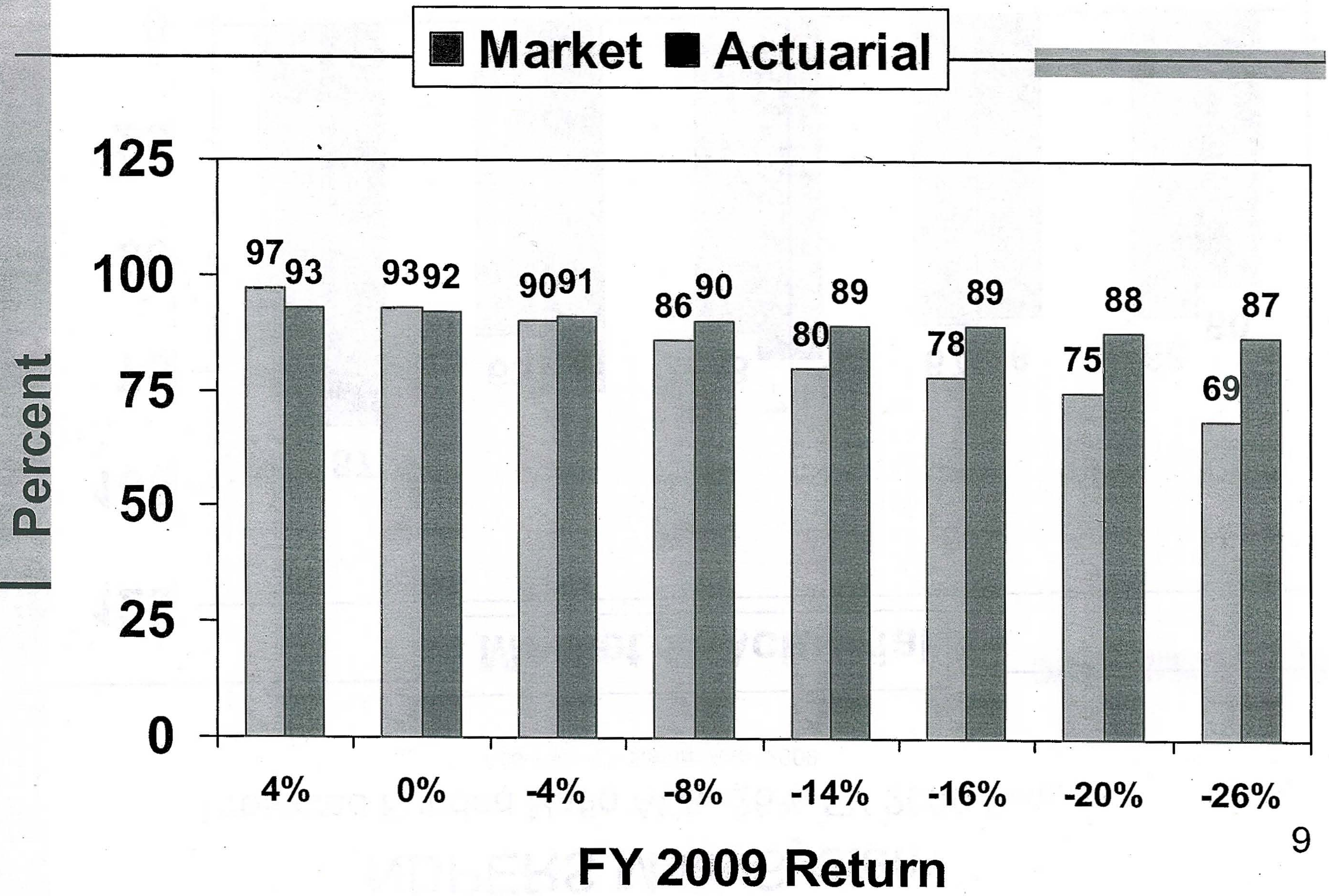
# Where is PERS at?

- Based upon RIO estimates YTD return thru Dec

-20.50%

# NDPERS Main System

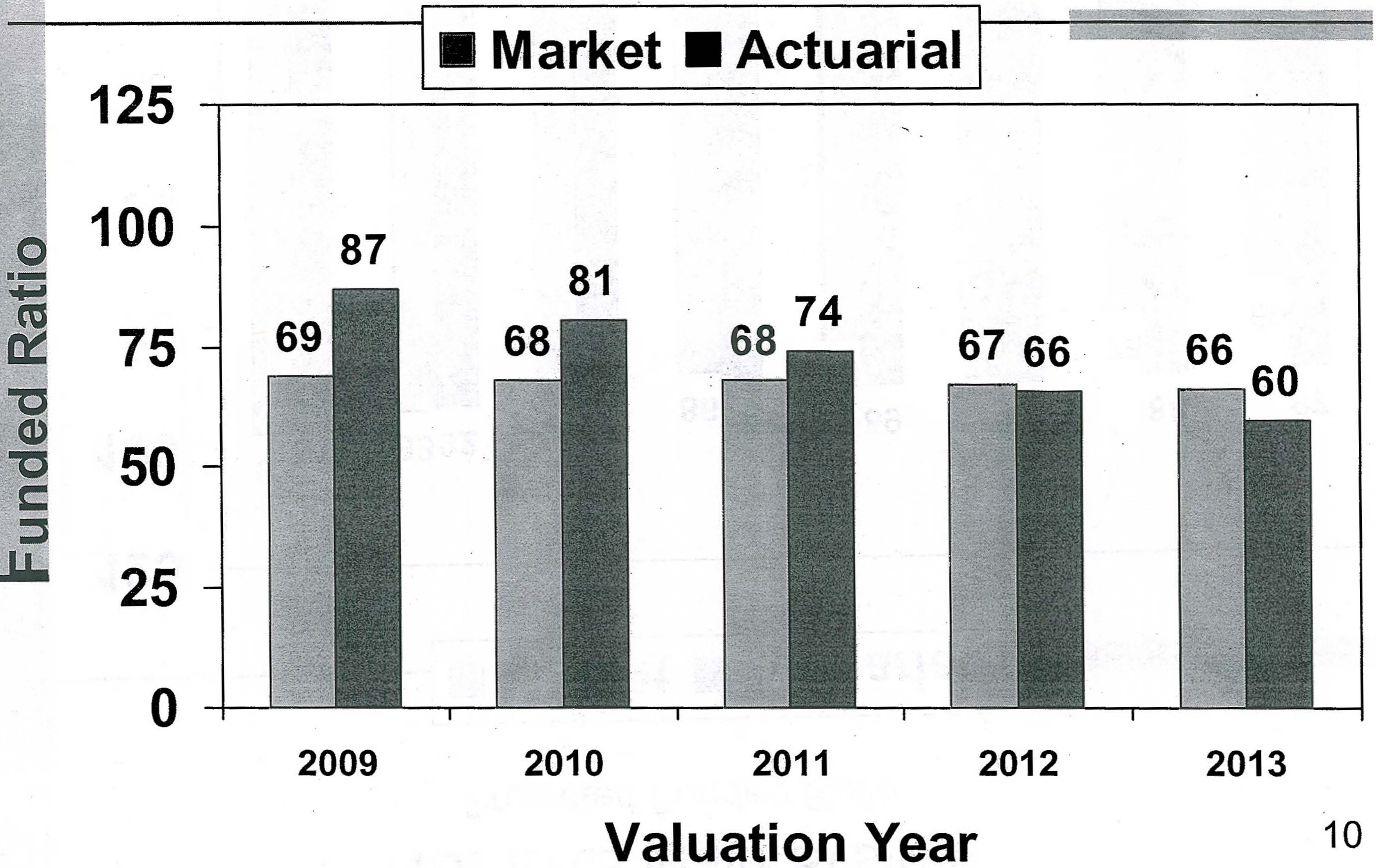
Projected Funded Ratio



# NDPERS Main System

## Projected Funded Ratio At A -26% FY 2009 Return

Assumes 8% Return After 2009



# Primary Questions?

- What is going to happen in the next 6 months?
- What is the next several years return going to be?

# Near term - Actuarial required contributions – Near Term

## North Dakota Main System

### Projected Margins

### (Market Return After FY 2009 Always 8.0%)

| If Market Return for FY 2009 is | June 30, 2009 | June 30, 2010 | June 30, 2011 | June 30, 2012 | June 30, 2013 |
|---|---|---|---|---|---|
| -26% | -3.19% | -4.51% | -5.93% | -7.67% | -8.96% |
| -20% | -2.97% | -4.06% | -5.25% | -6.77% | -7.84% |
| -16% | -2.83% | -3.76% | -4.80% | -6.16% | -7.09% |
| -14% | -2.75% | -3.61% | -4.57% | -5.86% | -6.72% |
| -8% | -2.54% | -3.15% | -3.89% | -4.96% | -5.59% |
| -4% | -2.39% | -2.85% | -3.44% | -4.35% | -4.84% |
| 0% | -2.25% | -2.55% | -2.98% | -3.75% | -4.09% |
| 4% | -2.10% | -2.25% | -2.53% | -3.15% | -3.35% |

Note: Projection reflects only investment return effects.
Assumes constant normal cost rate of 8.71% for Main.
The 2008 valuation margin is -2.14%.

# Longer Term - Considerations for Recovery (returning to 100% funded status)

- We could rely solely on contribution increases
- We could rely solely on investment returns
- We could look to both

*Income = Investments + Contributions*

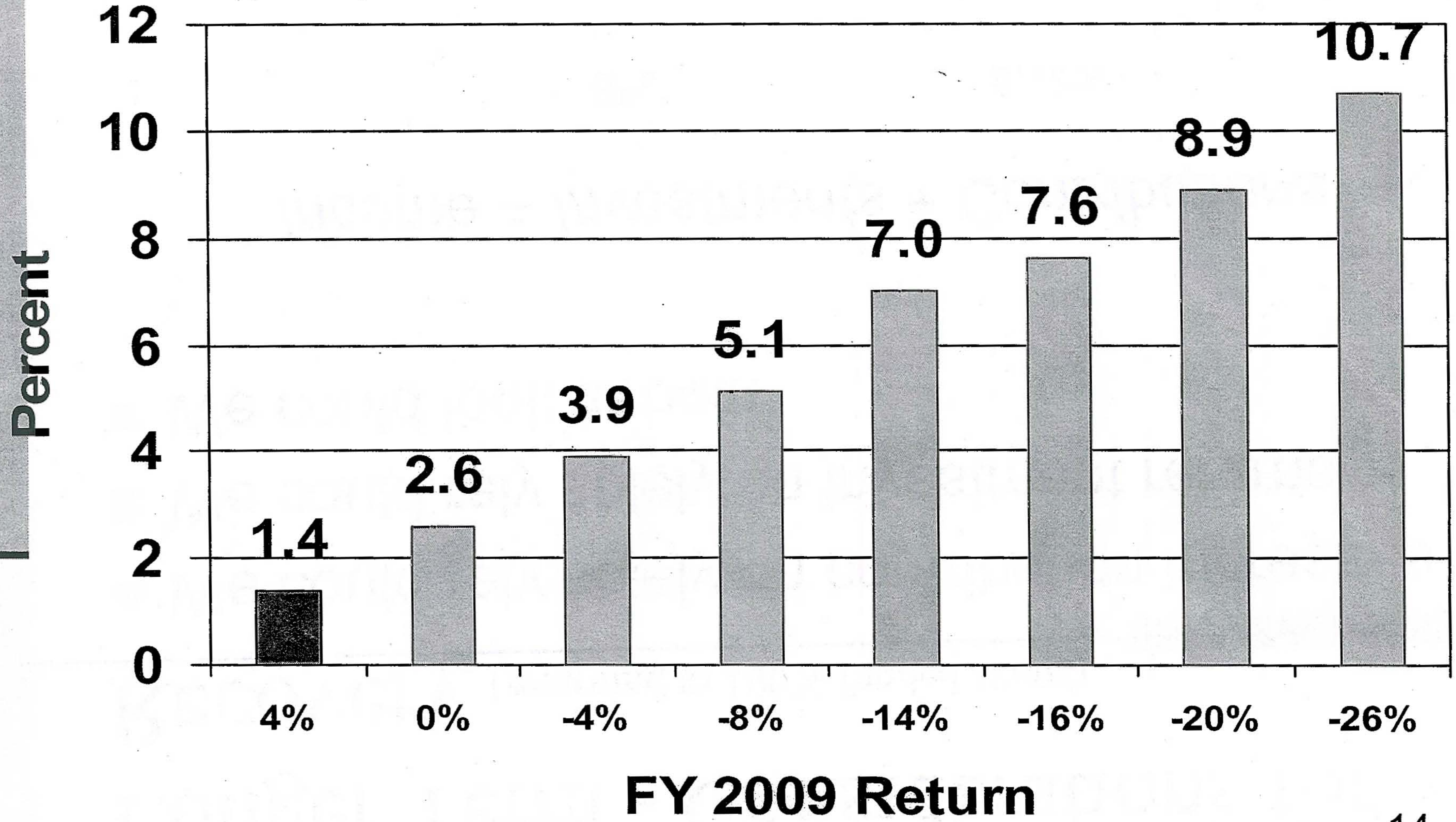
8% 8.12%

What if we rely solely on contribution increases

# NDPERS Main System

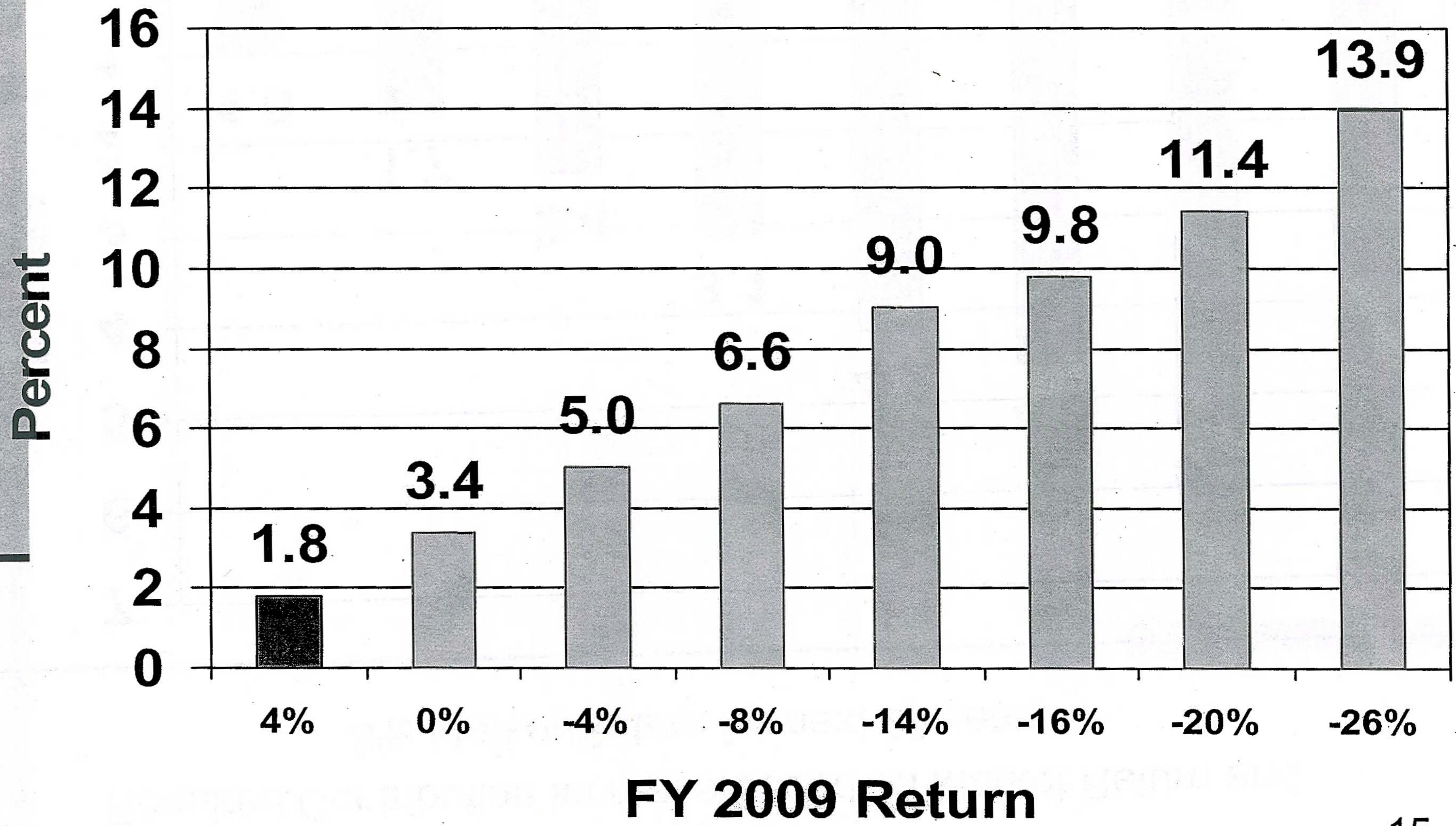
Required Contribution Increase Based on Market Return and

8% Market Return for next 10 years



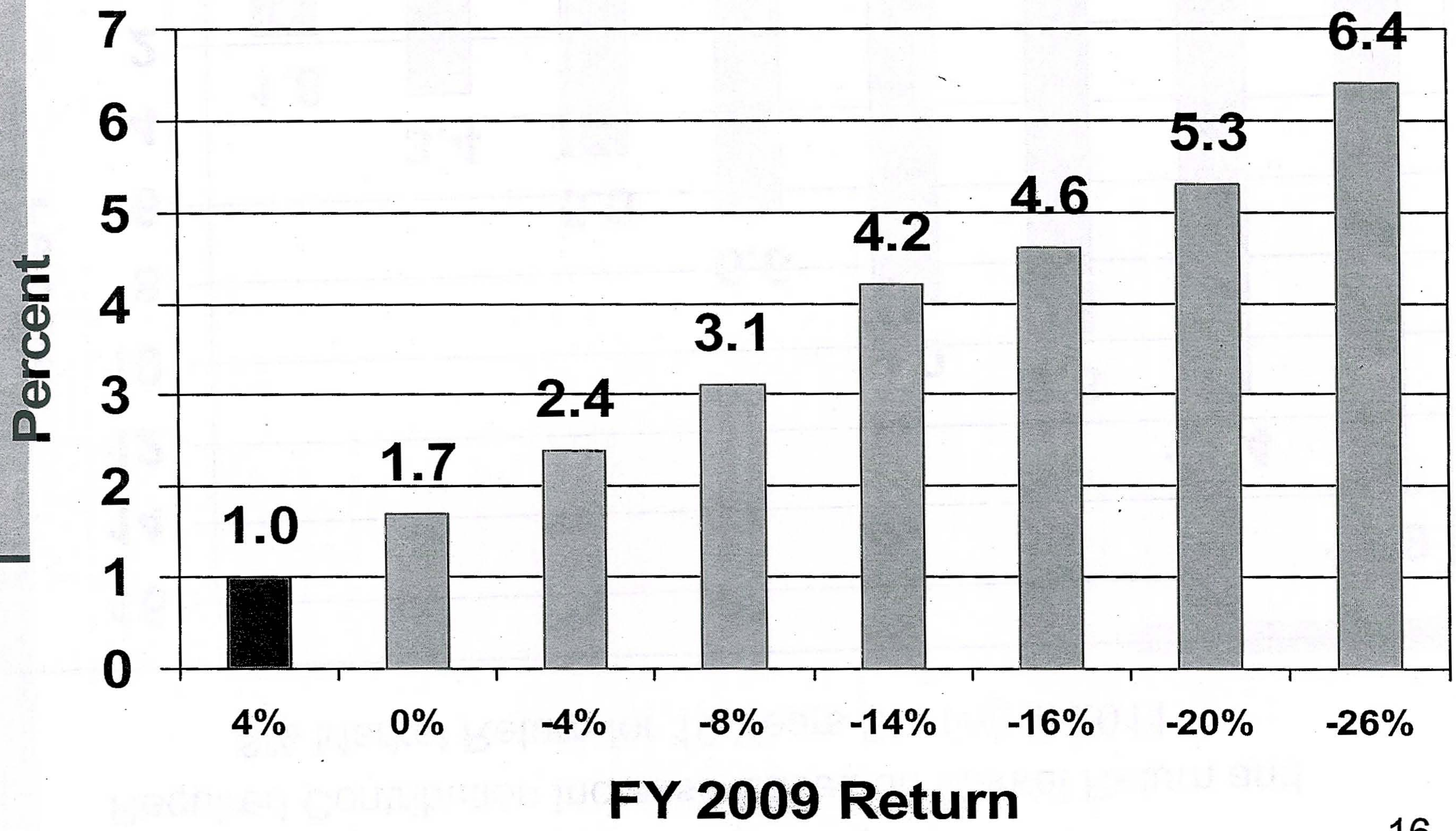
# NDPERS Main System

Required Contribution Increase Based on Market Return and 8% Market Return for 10 Years Starting in 2011



# NDPERS Main System

Required Contribution Increase Based on Market Return and
8% Market Return for next 20 years

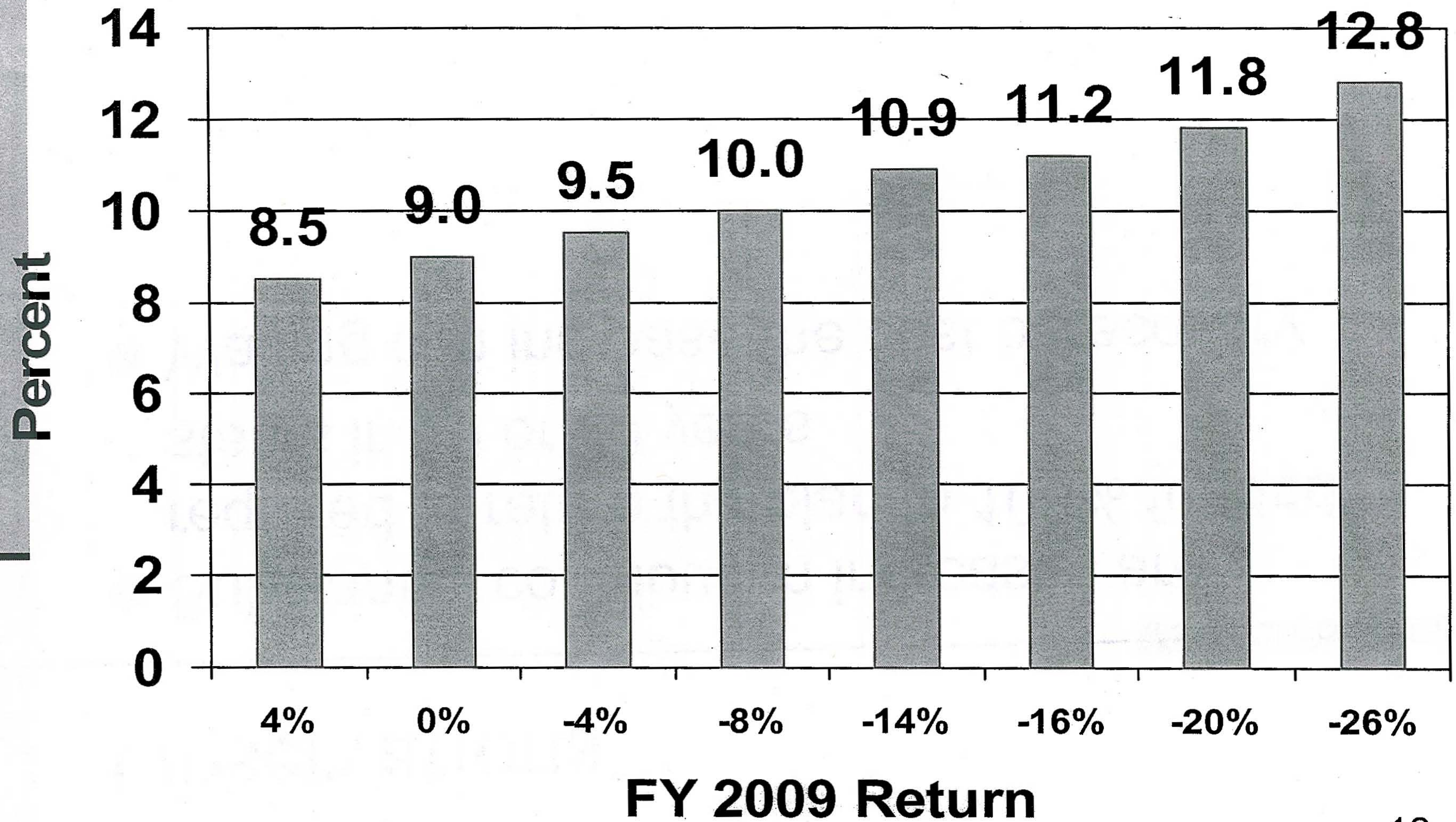


# Observations

- Substantial contribution increases are required to return the plan to 100% funded status in 10 or 20 years
- Waiting can increase the cost of recovery

# NDPERS Main System

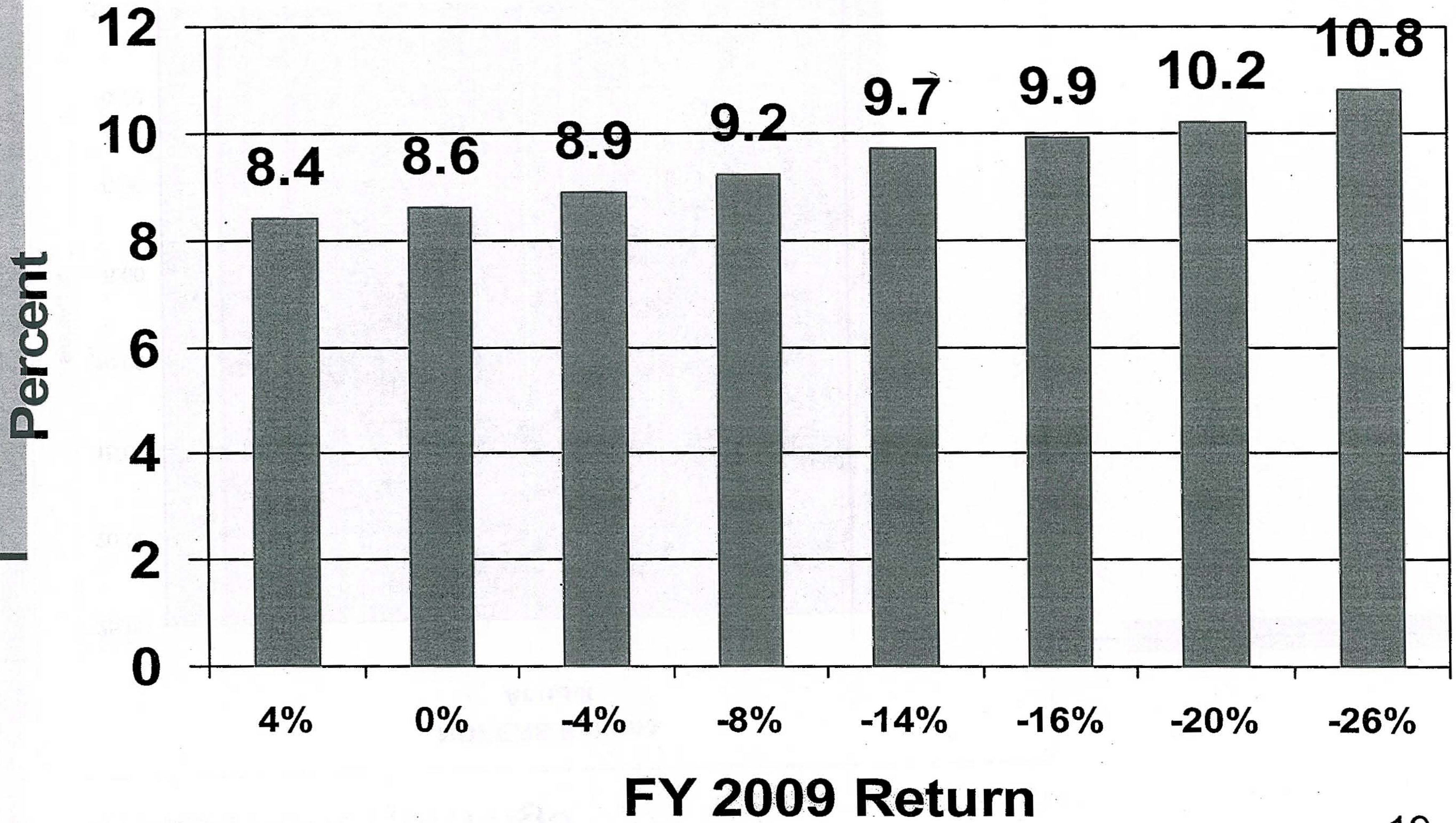
## Market Return Needed to Achieve 100% Funded Ratio with No Increase in 10 years



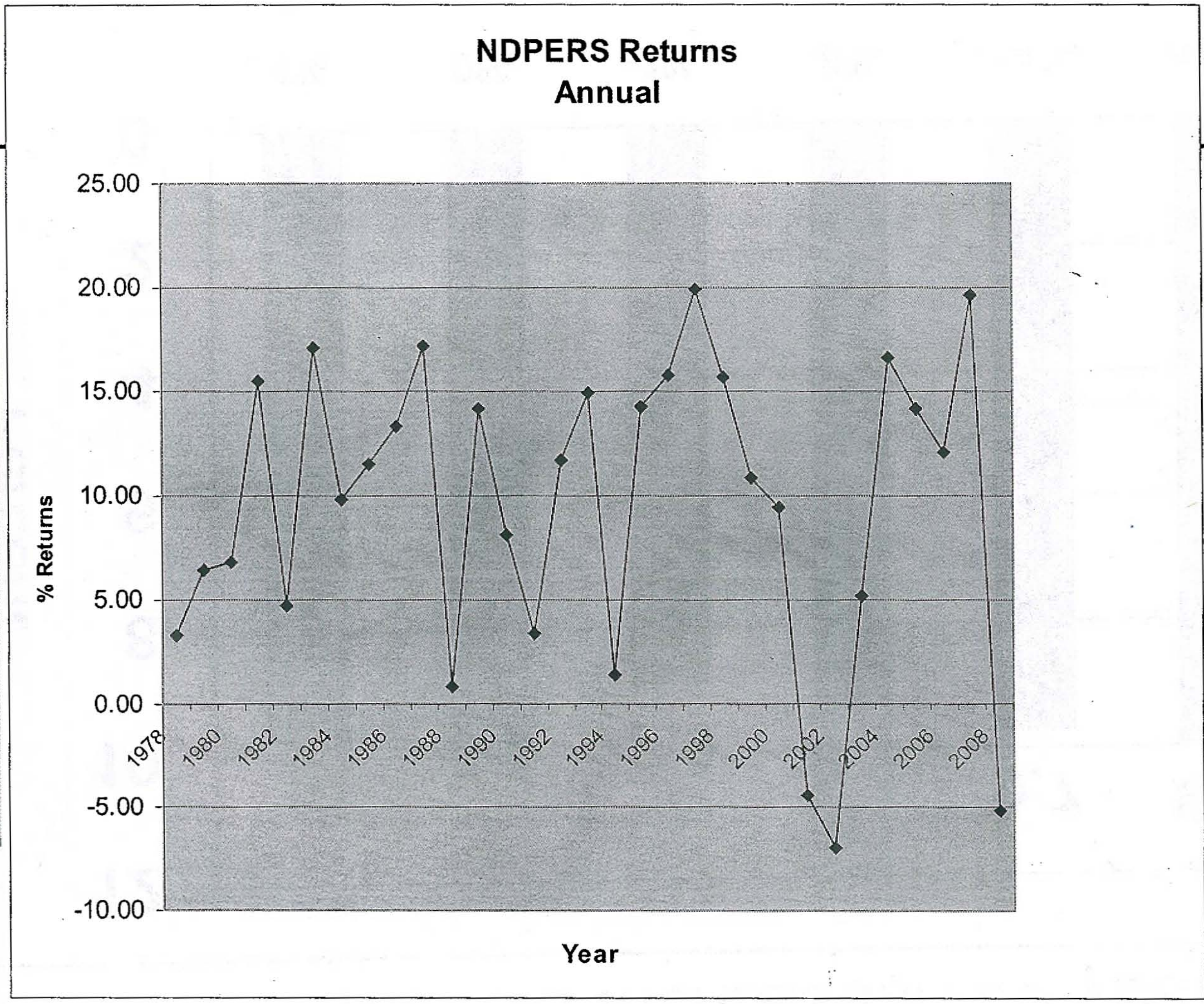

What if we rely solely on investment returns

# NDPERS Main System

## Market Return Needed to Achieve 100% Funded Ratio with No Increase in 20 years

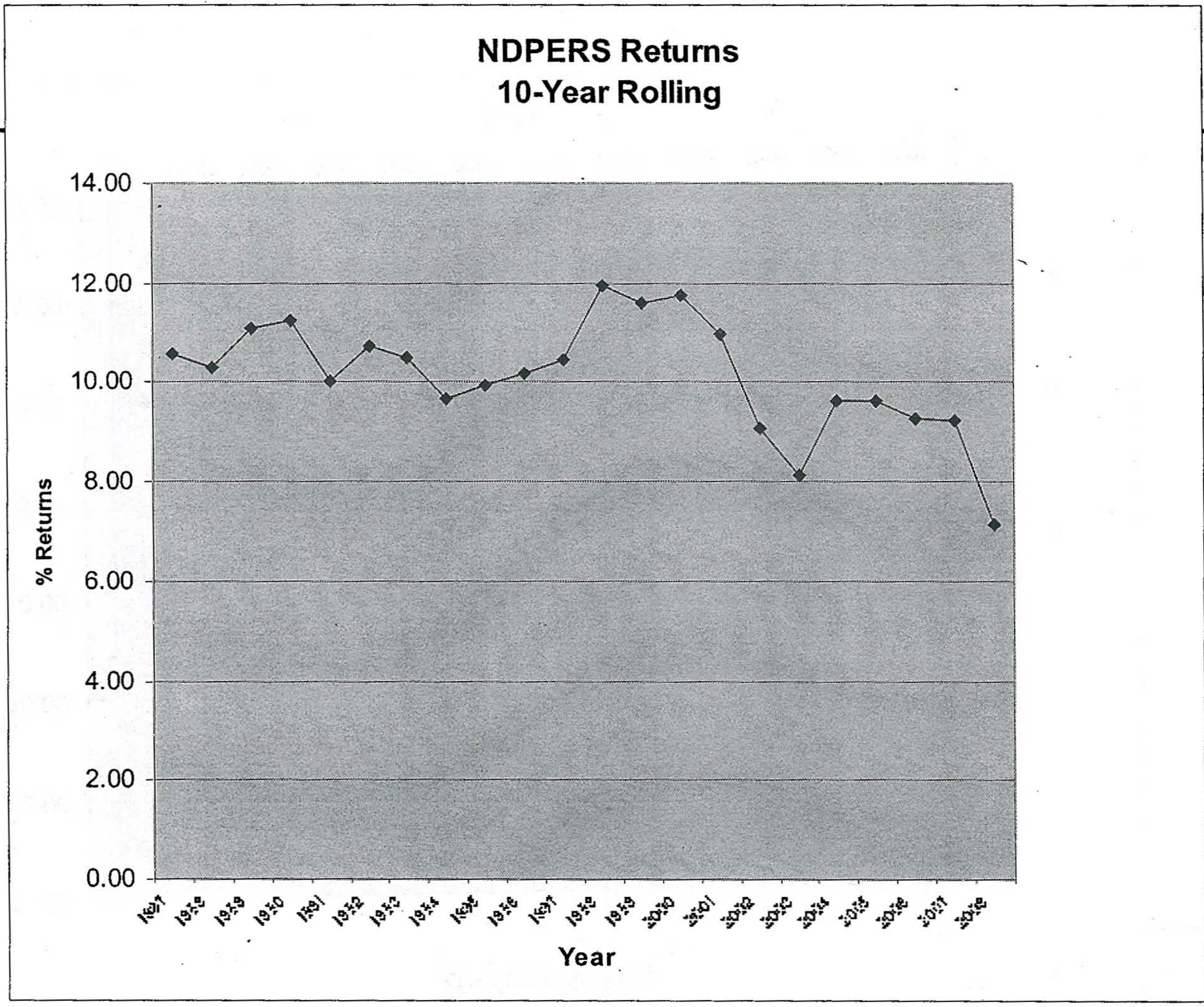


# Investment Earnings



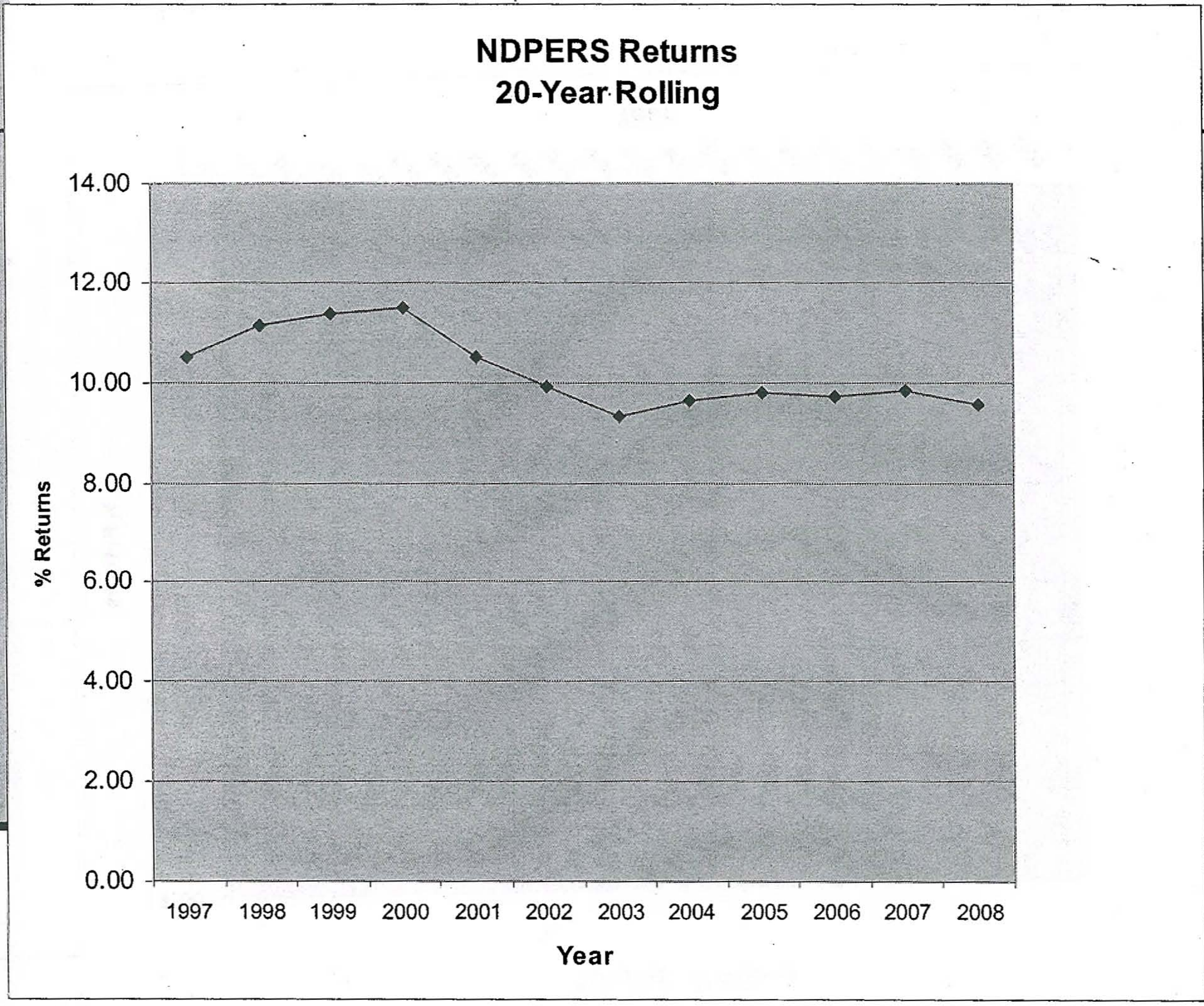

| | |
|---|---|
| **Average** | **9.59** |
| **Median** | **11.63** |
| **S.D.** | **7.25** |

# Investment Earnings




| | |
|---|---|
| **Average** | **10.13** |
| **Median** | **10.25** |
| **S.D.** | **1.16** |

# Investment Earnings



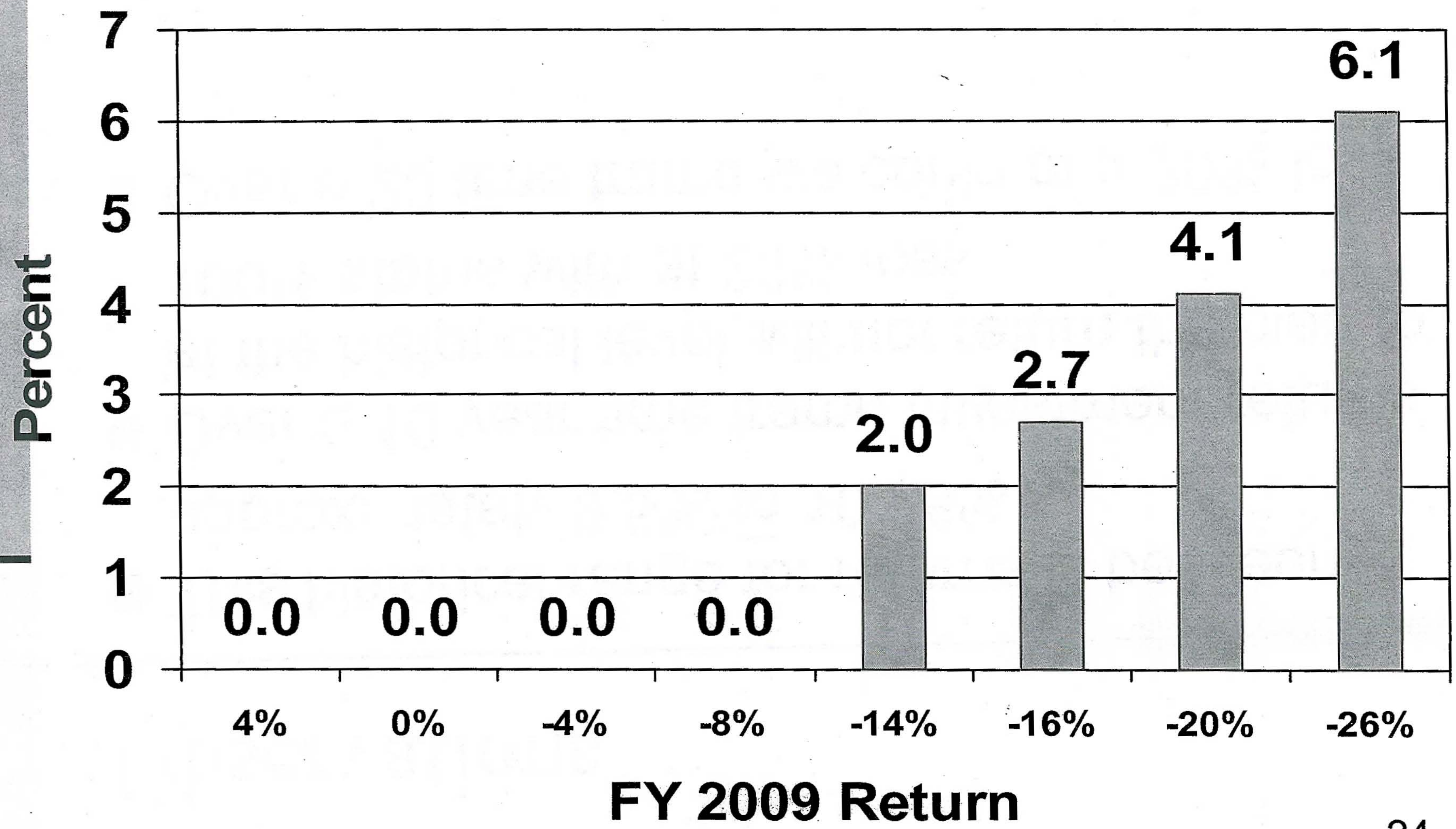

| | |
|---|---|
| **Average** | **10.22** |
| **Median** | **9.87** |
| **S.D.** | **0.75** |

# Observations

- This historical range for returns is between approximately 9.5% to 10.25%
- Over a 10 year time frame investment returns at the historical level will not return the plan to 100% status with at 26% loss
- Over a 20 time frame we could at a 20% loss

# NDPERS Main System

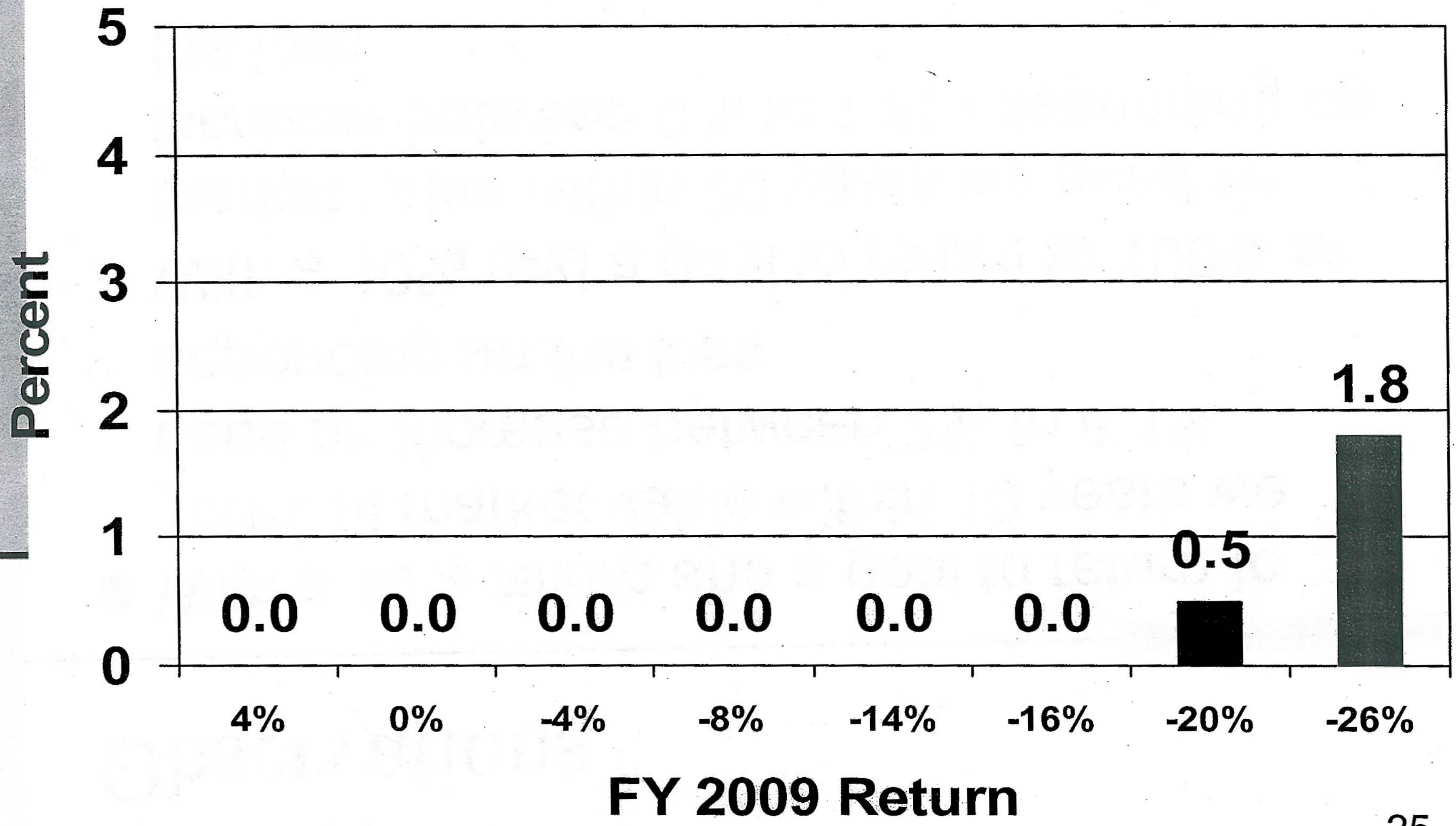
Required Contribution Increase Based on Market Return and
10% Market Return for next 10 years




What if we rely on both returns and contributions

# NDPERS Main System

Required Contribution Increase Based on Market Return and 10% Market Return for next 20 years



# Observations

- With a 10% return and a goal to return to 100% at market value within 10 years we need an increase between 2% to 6.1% depending on the loss
- With a 10% and a goal to return to 100% at market value within 20 years we need an increase between 0% to 1.8% depending on the loss

# Options

## Most conservative (rely solely on contributions for recovery)

- Increase contributions by 10.7% on July 1, 2009 assuming a -26% loss and a 10 year recovery. The cost of this would be:
    - 160 million over 24 month (44.5 million is general funds)
    - 120 million over 18 months (33.4 million is general funds)

## Conservative (assume either a 10 year recovery with 10% returns or focus only on the actuarial required contributions for 2009-2010)

- Increase contributions based upon a 10% return assumption and a 10 year recovery which would increase contribution by 0%-6% depending on loss. At a 20% loss it would be a 4.1% increase which would cost:
    - $61 million over 24 months (17 million is general funds)
    - $46 million over 18 months (12.8 million is general funds)
- *Increase contributions based upon the projected actuarial requirements for 2009-2011 biennium assuming a -20% return which would be 3.41% and cost (with increase for judges of .82% and HP of 2.55%):*
    - $51 million over 24 months (14 million is general funds)
    - *$38 million over 18 months (10.6 million is general funds)*

## Moderately Conservative (take action immediately based upon a 20 year recovery with a contribution increase and assumed investment returns in the 10% range)

- Increase contributions from 0%-1.8% depending on loss. At a 20% it would be .5% and cost:
    - 7.5 million over 24 months (2.1 million is general funds)
    - 5.6 million over 18 months (1.6 million is general funds)

## Least conservative (monitor or rely solely on investments for recovery)

- Do nothing at this time and monitor the situation
- Returns would need to average 12.8% over the next 10 years to recover from -26% this year or 10.8% over 20 years
- Returns would need to average 11.8 over the next 10 years to recover from -20% this year or 10.2% over 20 years

*PERS Board suggestion*

# PERS Board

- Inform the legislature, propose an amendment to facilitate review on best course of action
- PERS suggestion - To take the conservative option:
  - Increase contribution to the actuarially required level for the next two years – Focus on near term costs only – main (3.41%), judges (.82%), HP (2.55%) and DC (3.41%)
  - This would be a *first step only*
  - Future returns would indicate future actions
  - Increase would be effective January 1, 2010 so political subdivisions could plan
  - Increase would expire in June of 2011, next legislature could review and determine if it should be continued, increased, decreased or discontinued.

# Near term - Actuarial required contributions

## North Dakota Main System
### Projected Margins
### (Market Return After FY 2009 Always 8.0%)

| If Market Return for FY 2009 is | June 30, 2009 | June 30, 2010 | June 30, 2011 | June 30, 2012 | June 30, 2013 |
|---|---|---|---|---|---|
| -26% | -3.19% | -4.51% | -5.93% | -7.67% | -8.96% |
| -20% | -2.97% | -4.06% | -5.25% | -6.77% | -7.84% |
| -16% | -2.83% | -3.76% | -4.80% | -6.16% | -7.09% |
| -14% | -2.75% | -3.61% | -4.57% | -5.86% | -6.72% |
| -8% | -2.54% | -3.15% | -3.89% | -4.96% | -5.59% |
| -4% | -2.39% | -2.85% | -3.44% | -4.35% | -4.84% |
| 0% | -2.25% | -2.55% | -2.98% | -3.75% | -4.09% |
| 4% | -2.10% | -2.25% | -2.53% | -3.15% | -3.35% |

Note: Projection reflects only investment return effects.
Assumes constant normal cost rate of 8.71% for Main.
The 2008 valuation margin is -2.14%.

# Appropriation – State (excluding Higher Ed)

- Original bill 2%
- Total - $11,338,948
  General – $5,712,962
  Other - $5,625,985
- Amendment
- Total - $21,250,275
  - General - $10,432,587
  - Other - $10,816,097