

# Characteristics of « Irrational Equity Markets » and Implications for Pension Plan Investing

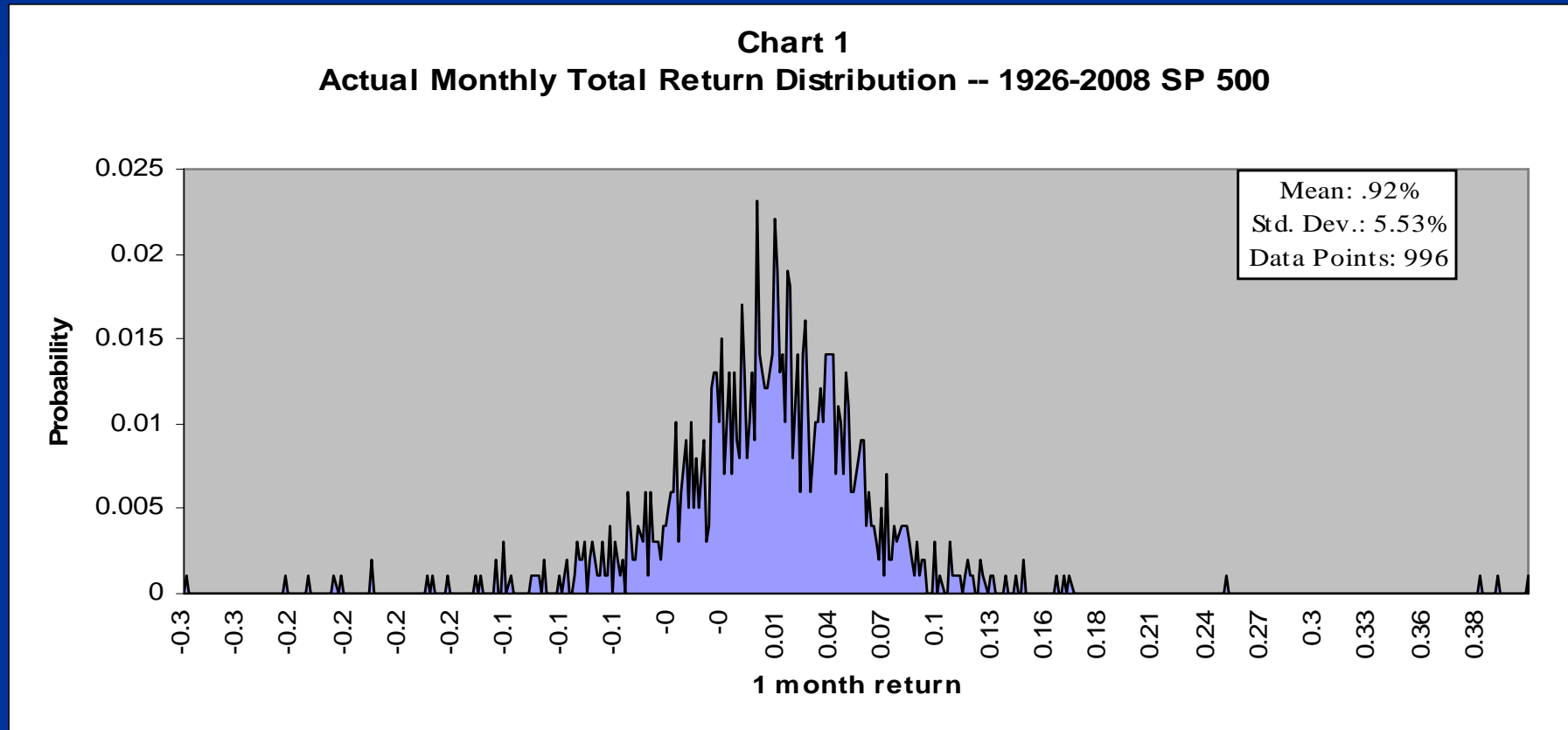
By W. Paul McCrossan  
Cyprus, March 3 2009

# The “Manic Depressive” Equity Market

*“There was a little girl  
Who had a little curl  
Right in the middle of her forehead.  
When she was good,  
She was very very good.  
And when she was bad,  
She was horrid”.*

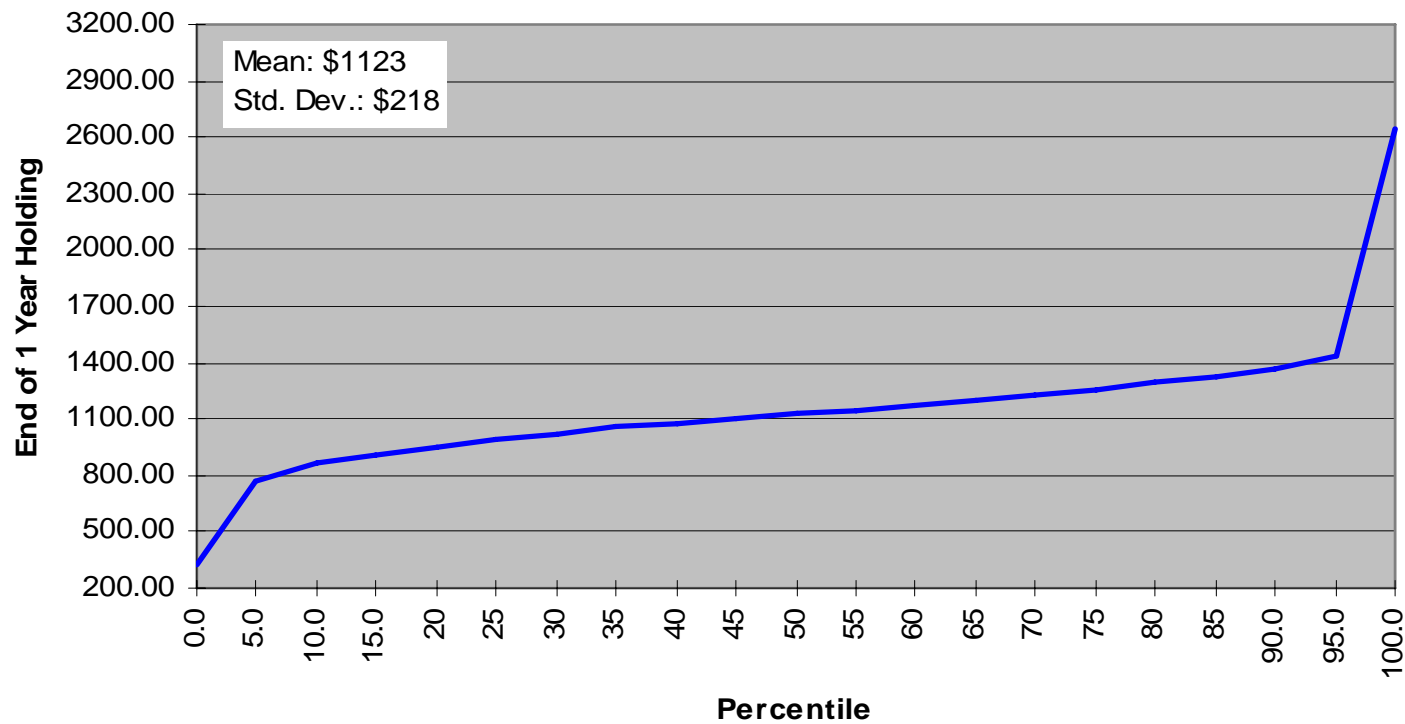
# Equity Markets have been “Fat Tailed” Markets

Typical of markets driven by “fear” and “greed”



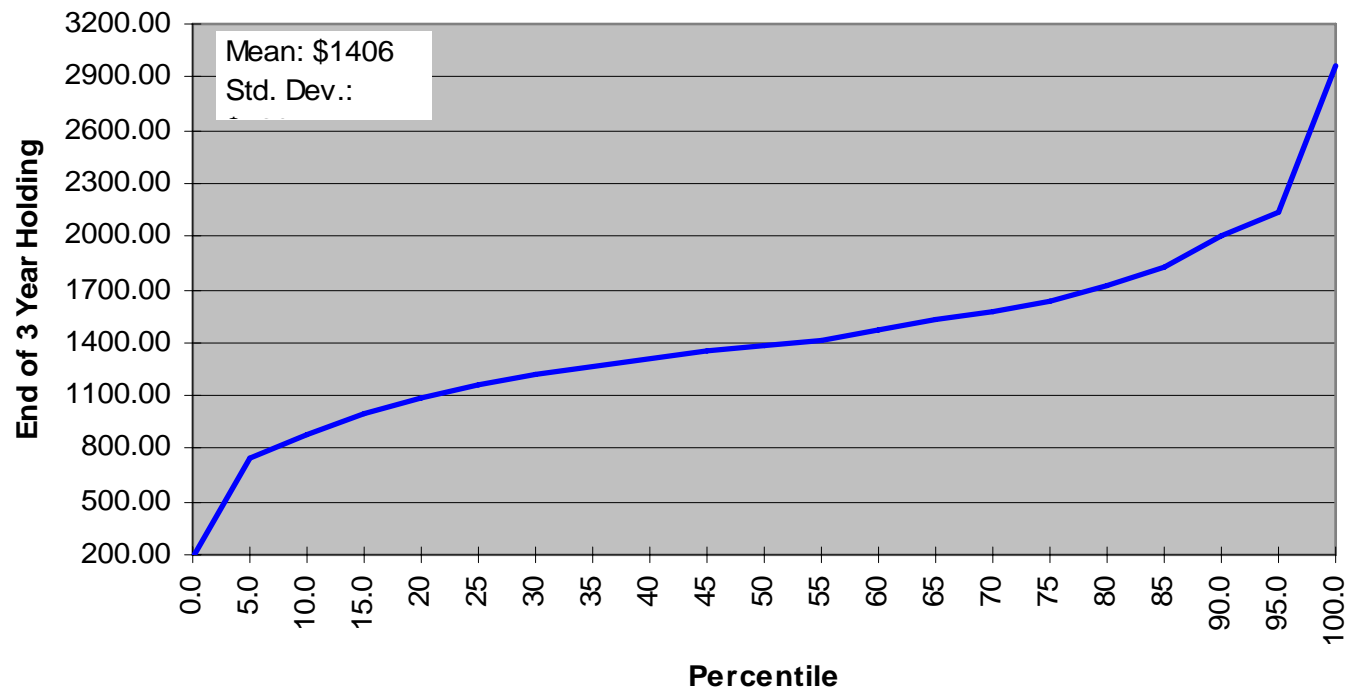
# S&P 500 Historical Results Distribution over One Year

Chart 2  
Actual One Year 1926-2008 S&P 500 Total Returns (\$1000 Initial Investment)



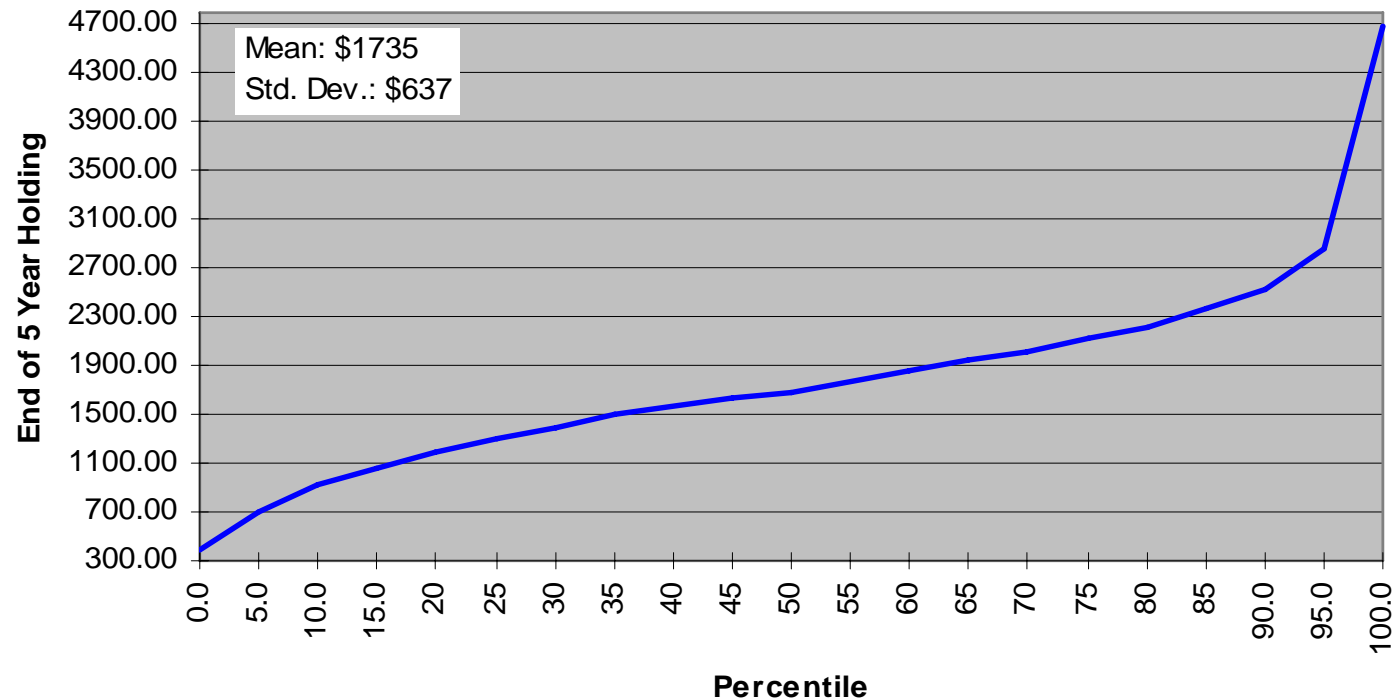
# S&P 500 Historical Results Distribution over Three Years

**Chart 3**  
**Actual Three Year 1926-2008 S&P 500 Total Returns (\$1000 Initial Investment)**



# S&P 500 Historical Results Distribution over Five Years

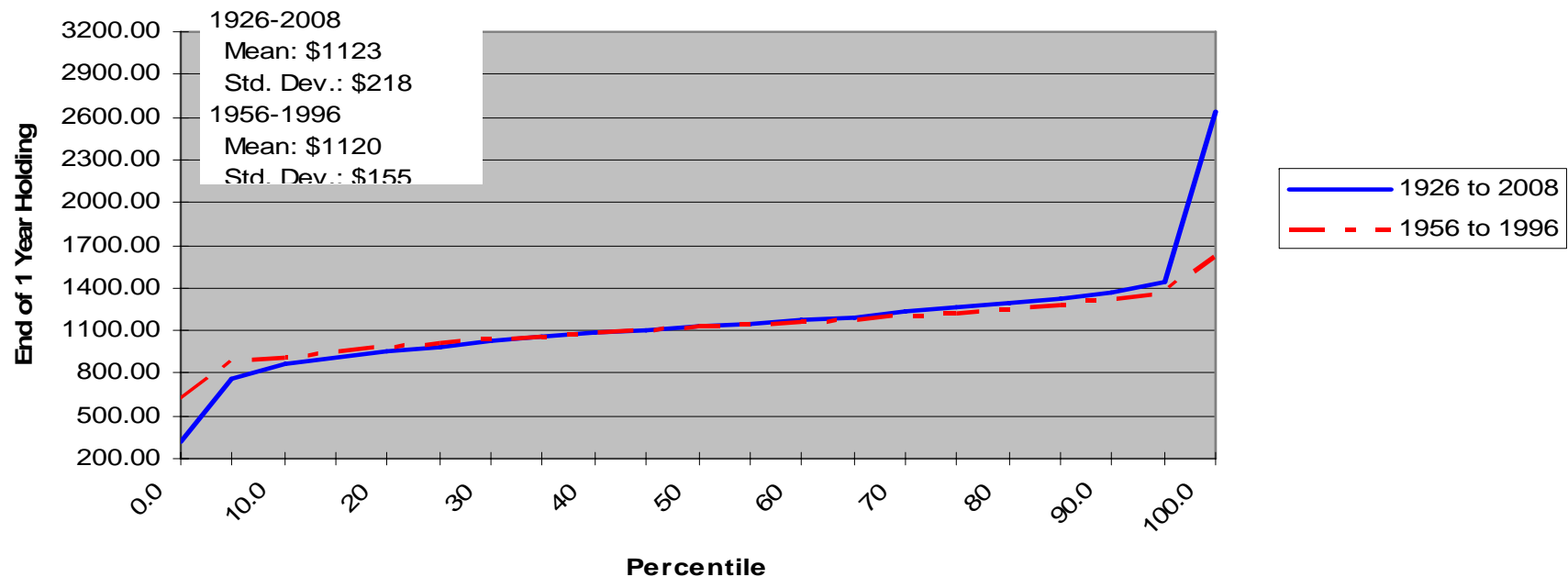
Chart 4  
Actual Five Year 1926-2008 S&P 500 Total Returns (\$1000 Initial Investment)



**For Forty Years after World War  
II (1956 – 1996), Equity Markets  
were Much “Better Behaved”**

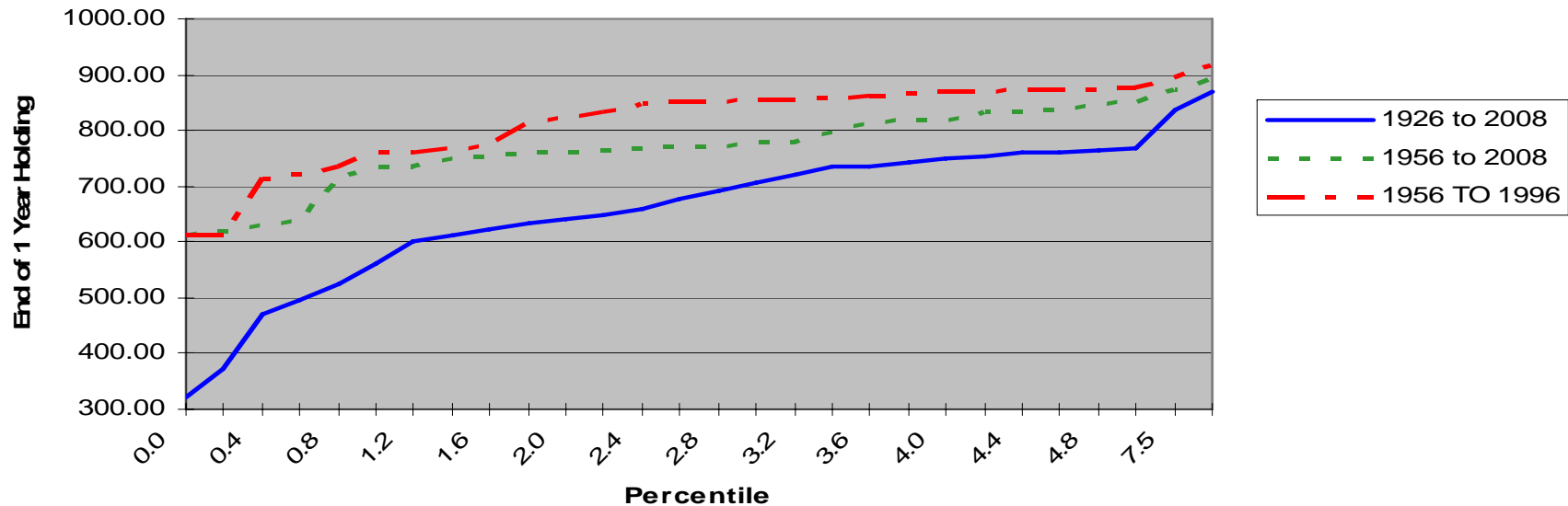
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (One Year)

**Chart 5**  
**Comparison of Actual One Year S&P 500 Investment Results Using 1926-2008 & 1956-1996**  
**(\$1000 Initial Investment)**



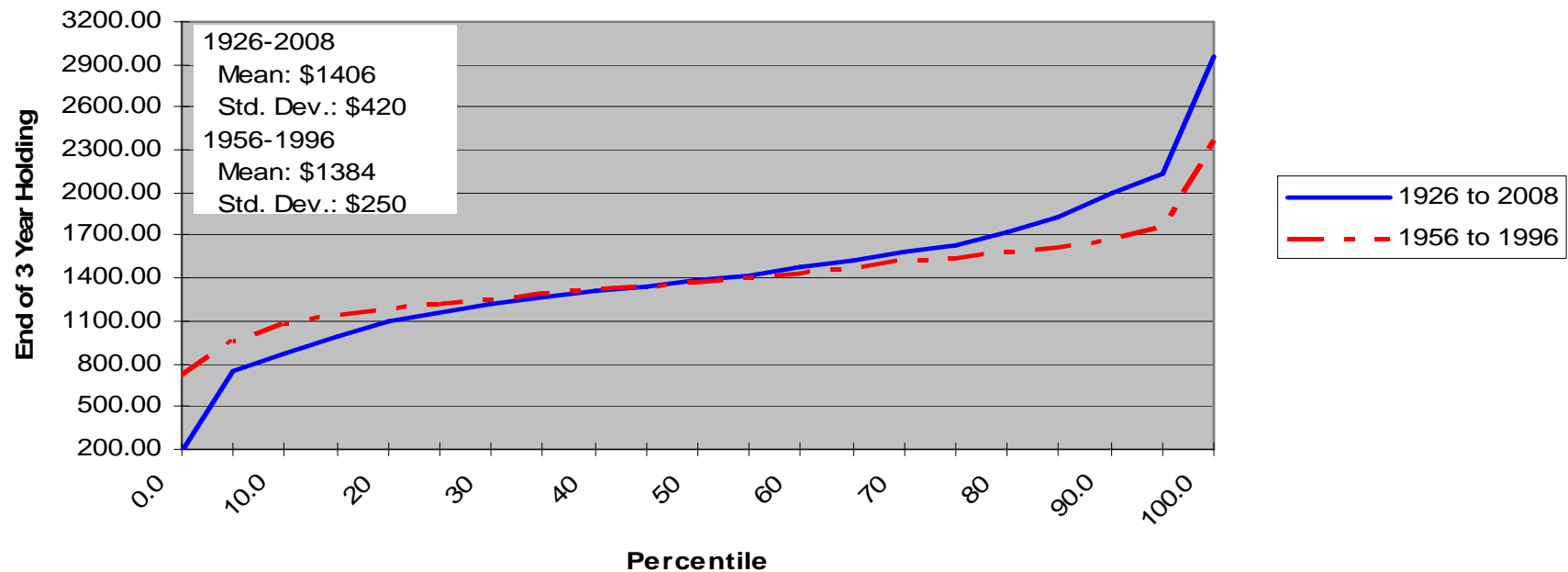
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (One Year – Worst Decile)

**Chart 5A**  
**Comparative Bottom 10 Percentiles -- Actual One Year S&P 500 Investment Results**  
**1926-2008, 1956-1996 & 1956-2008**  
**(\$1000 Initial Investment)**



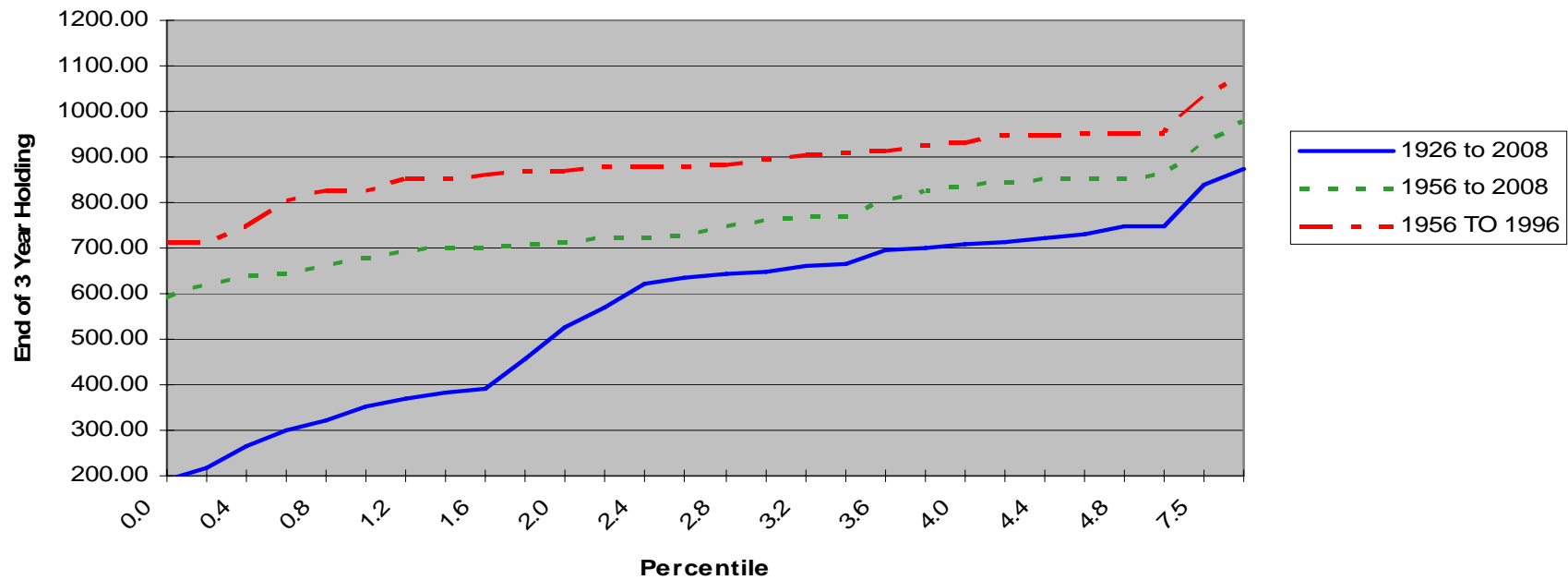
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (Three Years)

**Chart 6**  
**Comparison of Actual Three Year S&P 500 Investment Results Using 1926-2008 & 1956-1996**  
**(\$1000 Initial Investment)**



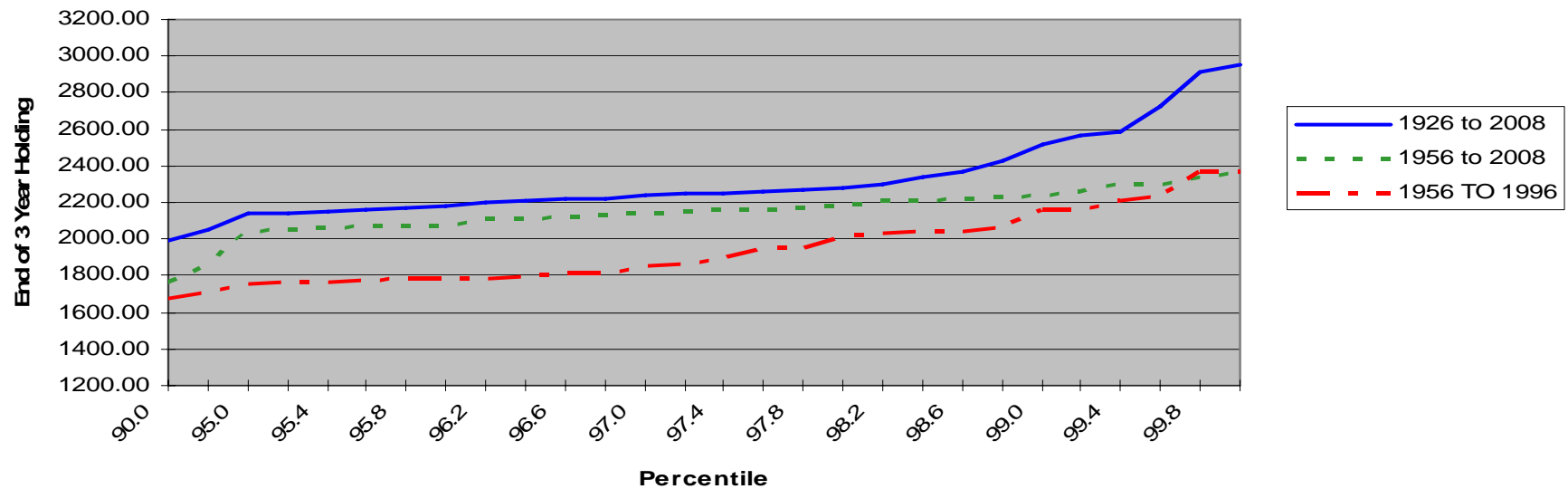
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (Three Years – Worst Decile)

Chart 6A  
Comparative Bottom 10 Percentiles -- Actual Three Year S&P 500 Investment Results  
1926-2008, 1956-1996 & 1956-2008  
(\$1000 Initial Investment)



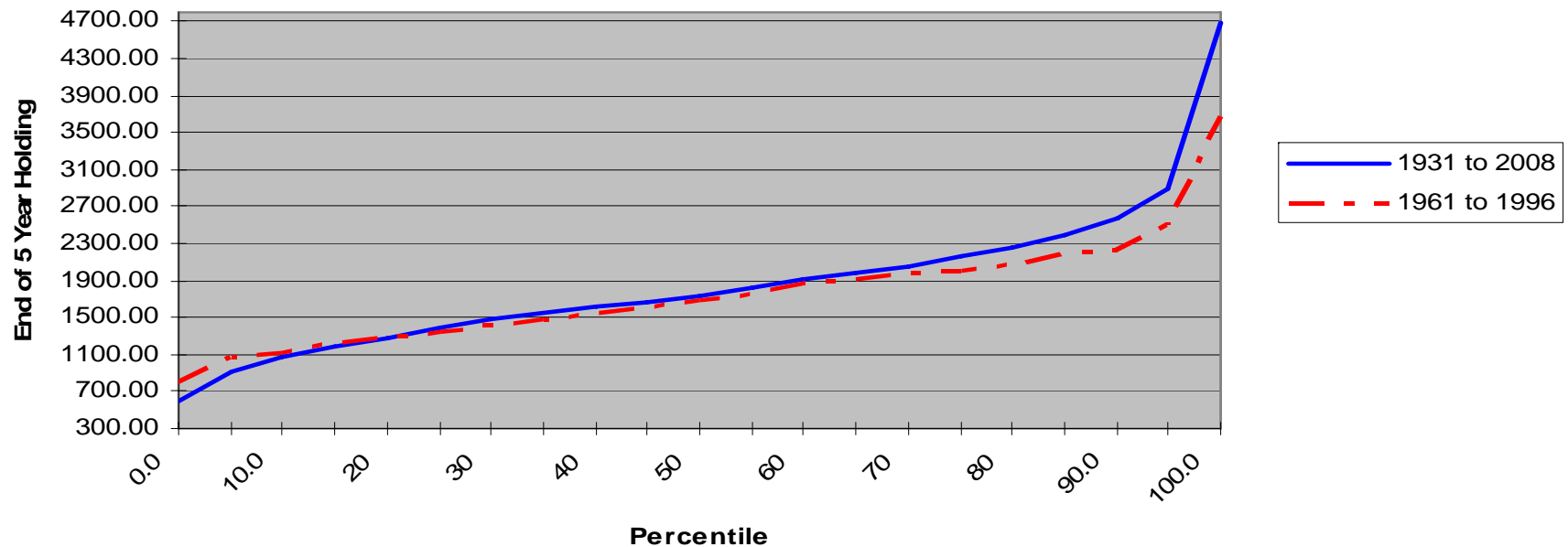
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (Three Years – Best Decile)

**Chart 6B**  
**Comparative Top 10 Percentiles – Actual Three Year S&P 500 Investment Results**  
**1926-2008, 1956-1996 & 1956-2008**  
**(\$1000 Initial Investment)**



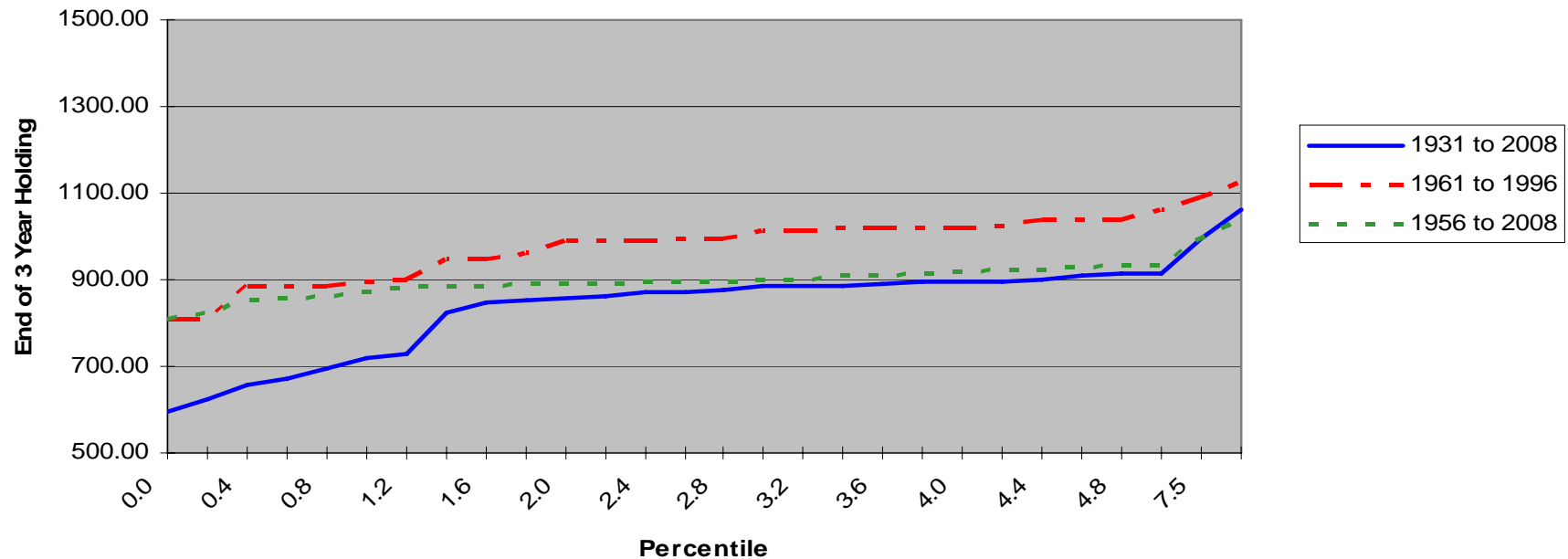
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (Five Years)

Chart 7  
Comparison of Actual Five Year S&P 500 Investment Results Using 1931-2008 & 1961-1996  
(\$1000 Initial Investment)



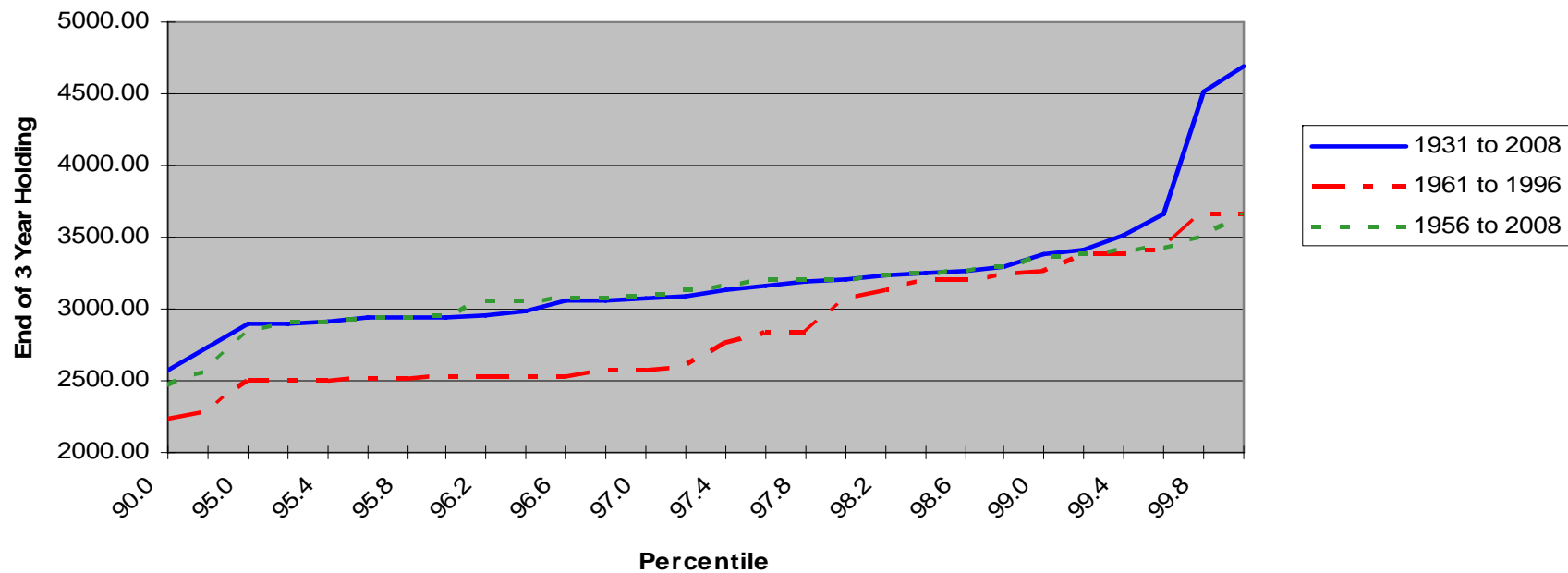
# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (Five Years - Worst Decile)

**Chart 7A**  
**Comparative Bottom 10 Percentiles -- Actual Five Year S&P 500 Investment Results**  
 1931-2008, 1961-1996 & 1956-2008  
 (\$1000 Initial Investment)



# Comparison of Forty Well Behaved Years on S&P 500 to Long Term Results (Five Years – Best Decile)

**Chart 7B**  
**Comparative Top 10 Percentiles -- Actual Five Year S&P 500 Investment Results**  
**1931-2008, 1961-1996 & 1956-2008**  
**(\$1000 Initial Investment)**



**Most Literature on Using Equities to  
Back Pension Promises was Developed  
During the Period of Low Volatility-  
BUT**

**Increased Volatility Largely  
Unnoticed – Implications not closely  
examined**

# Three Core Pension Fund Goals

- Contribution Stability
- Intergenerational Equity
- Benefit Security

# Should Core Pension Fund Goals be Quantified?

# **Volatility Can be Good for Immature Plans with Strong Positive Cash Flow**

# Volatility Can be Bad (even fatal) for Mature Pension Plans

# Mature Pension Plans May Need Stabilizers

- Surplus
- Less Risky Assets
- Contingent Benefits

# Benefit Security Objective Needs Articulation and Testing

Thank You