Doubling Down, Holding Steady, or Folding Their Cards:

How Have Public Sector Pensions Reacted to the Financial Crisis?

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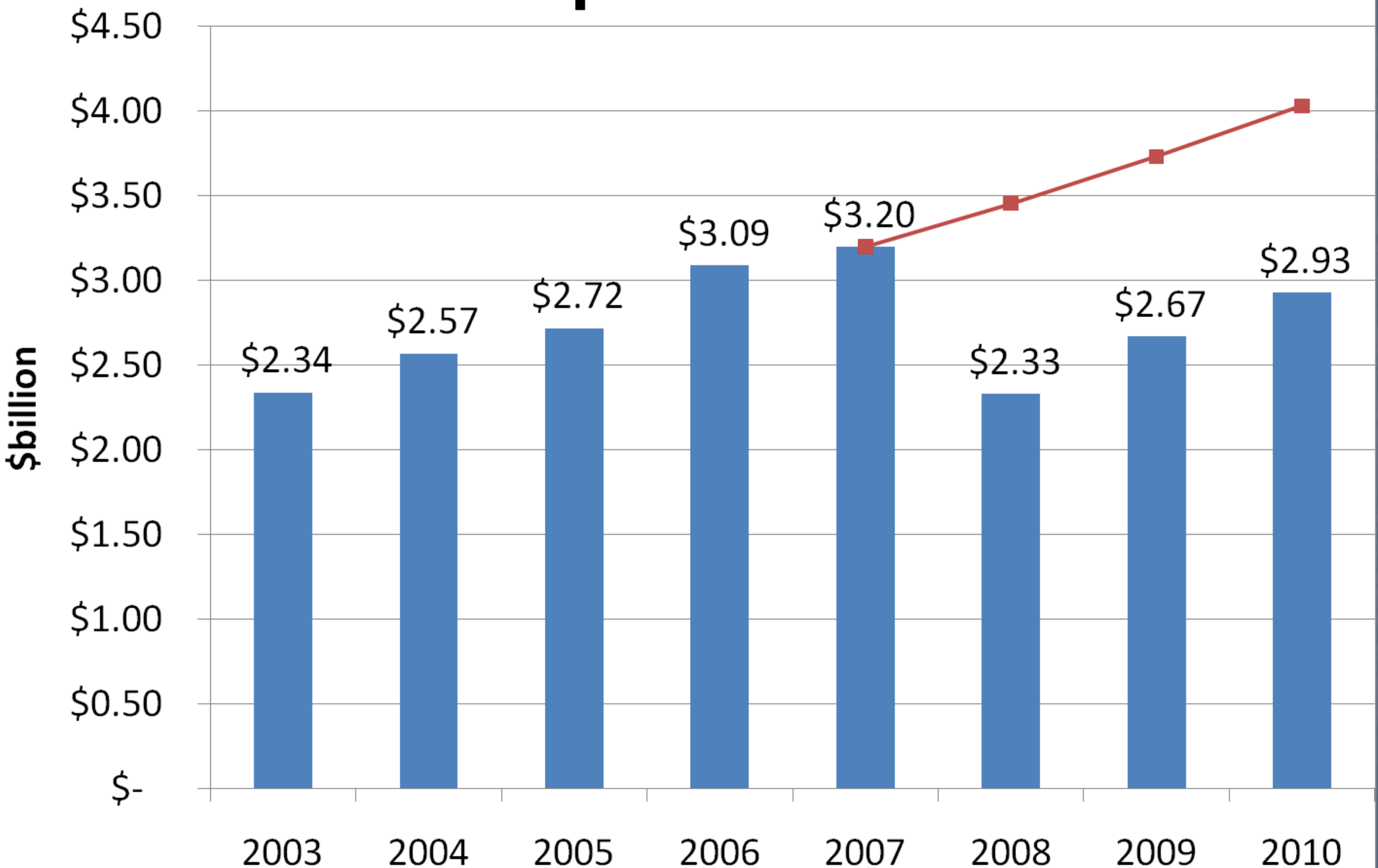
Investments and liabilities

- Liabilities discounted at expected return on portfolio
  - Higher returns/higher risk means "better funded"
- Plans already underfunded, projected returns lower
  - Wilshire: Avg 2010 portfolio return 1.3% less than 2007 projections
- But, expected return often set by legislature
  - Cutting return would have huge effect on funding
  - Plans arrange portfolio to achieve expected return

How have plans reacted?

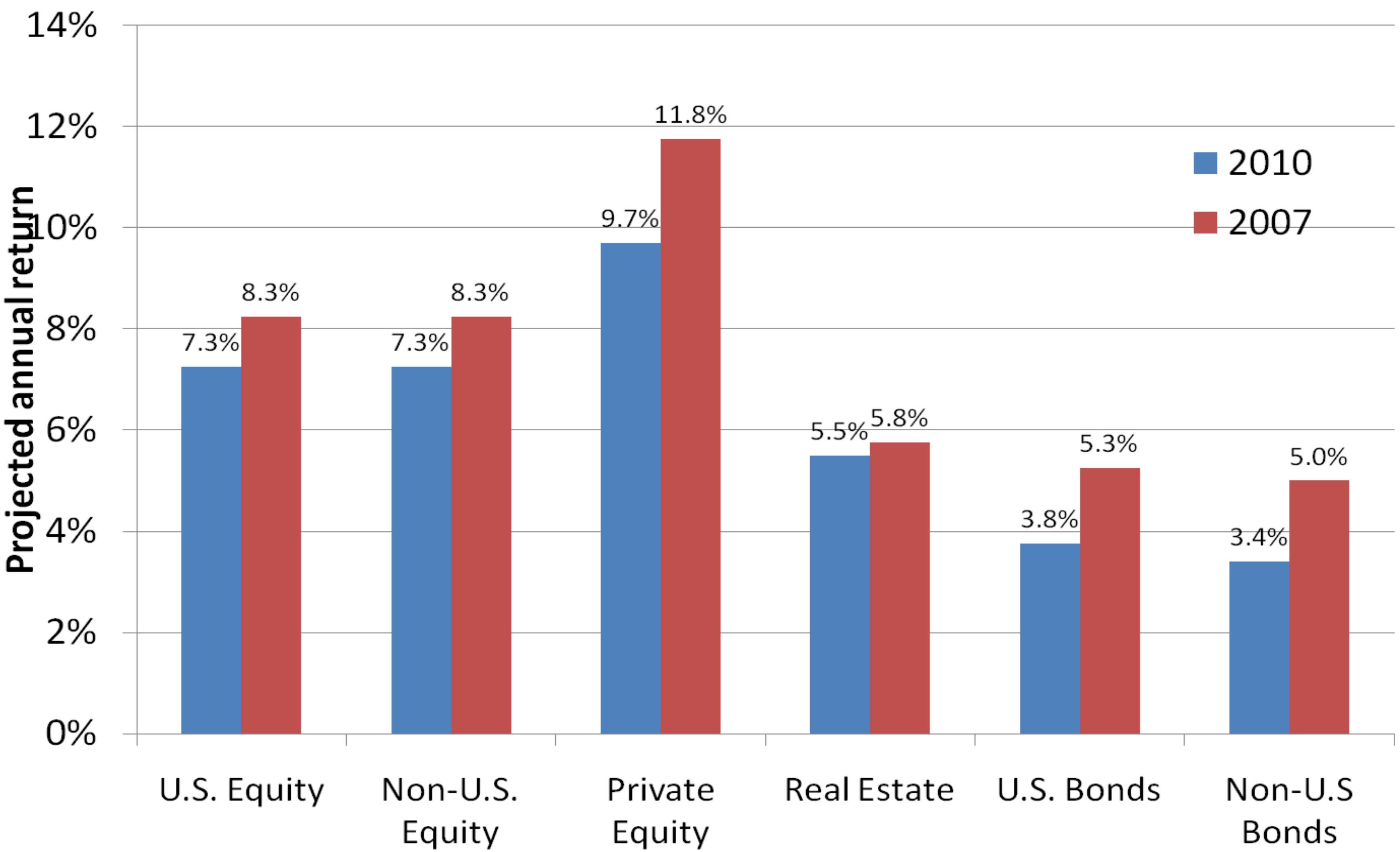
- Double down
  - Make up for 2007 losses and/or maintain current discount rate by taking more risk
- Folding cards
  - Chastened by 2007 losses, cut back on risk, think about asset-liability management, etc.
- Hold steady
  - Keep on truckin’

Public pension assets



Source: NASRA and author's calculations.

Lower projected returns



Source: Wilshire Consulting

Which portfolio?

- Current portfolios
  - Mean assumed return rose from 7.91% in 2007 to 7.94% in 2009
    - Real returns up by 0.06%
  - More detail, but changes based on market swings
- Target portfolio
  - Less detail; only broad asset classes
  - But shows plans *intent* regarding asset allocation and market risk

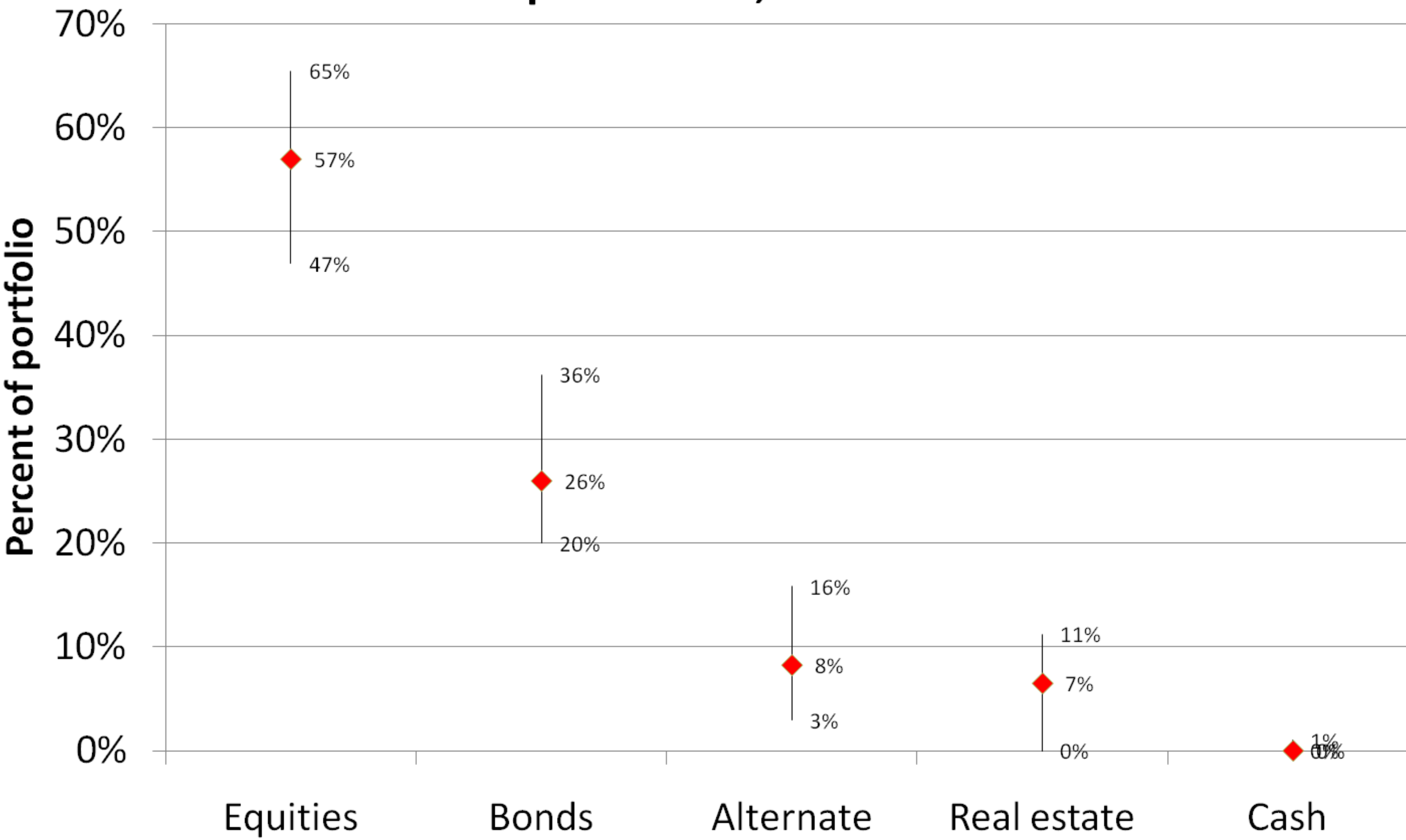
Sample

- 30 large public sector pension plans
- Assets equal to ~50% of total pension funds under management
- Target portfolios obtained from plan CAFRs for 2007 and 2010

Basic approach

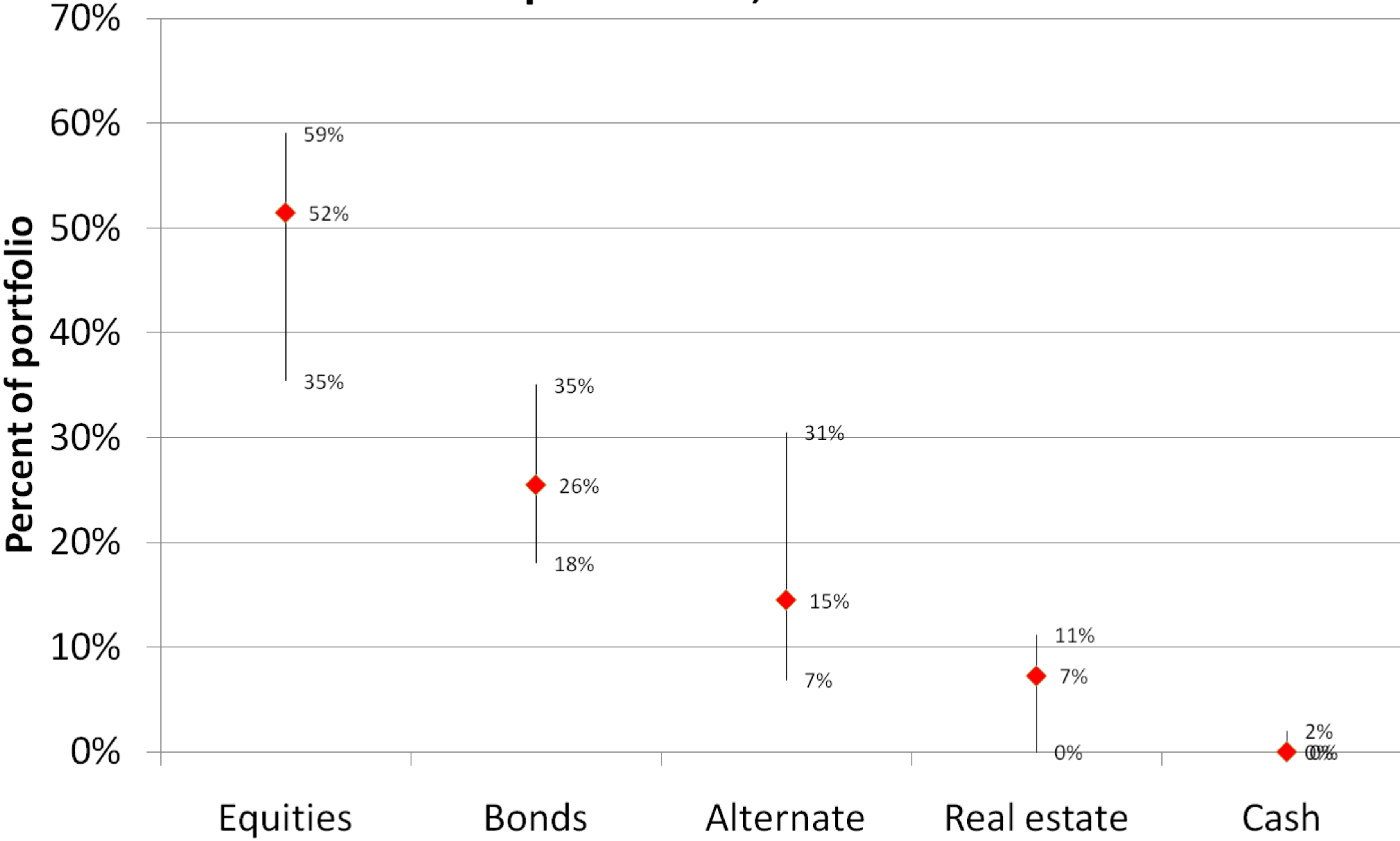
- Tabulate target portfolios for 2007 and 2010
  - Equities; bonds; alternatives; real estate; cash.
- Use simplified Wilshire projected returns, risk and covariations to estimate portfolio risk
  - Note: Use Wilshire's 2010 covariation matrix for both years
- Compare estimated standard deviation of target portfolio returns for 2007 to 2010

Median target asset allocations, with 10th and 90th percentiles, 2007



Source: Author's calculations, from plan data.

Median target asset allocations, with 10th and 90th percentiles, 2010



Source: Author's calculations, from plan data. When 2010 target data was unavailable, 2009 targets were used.

Assumptions

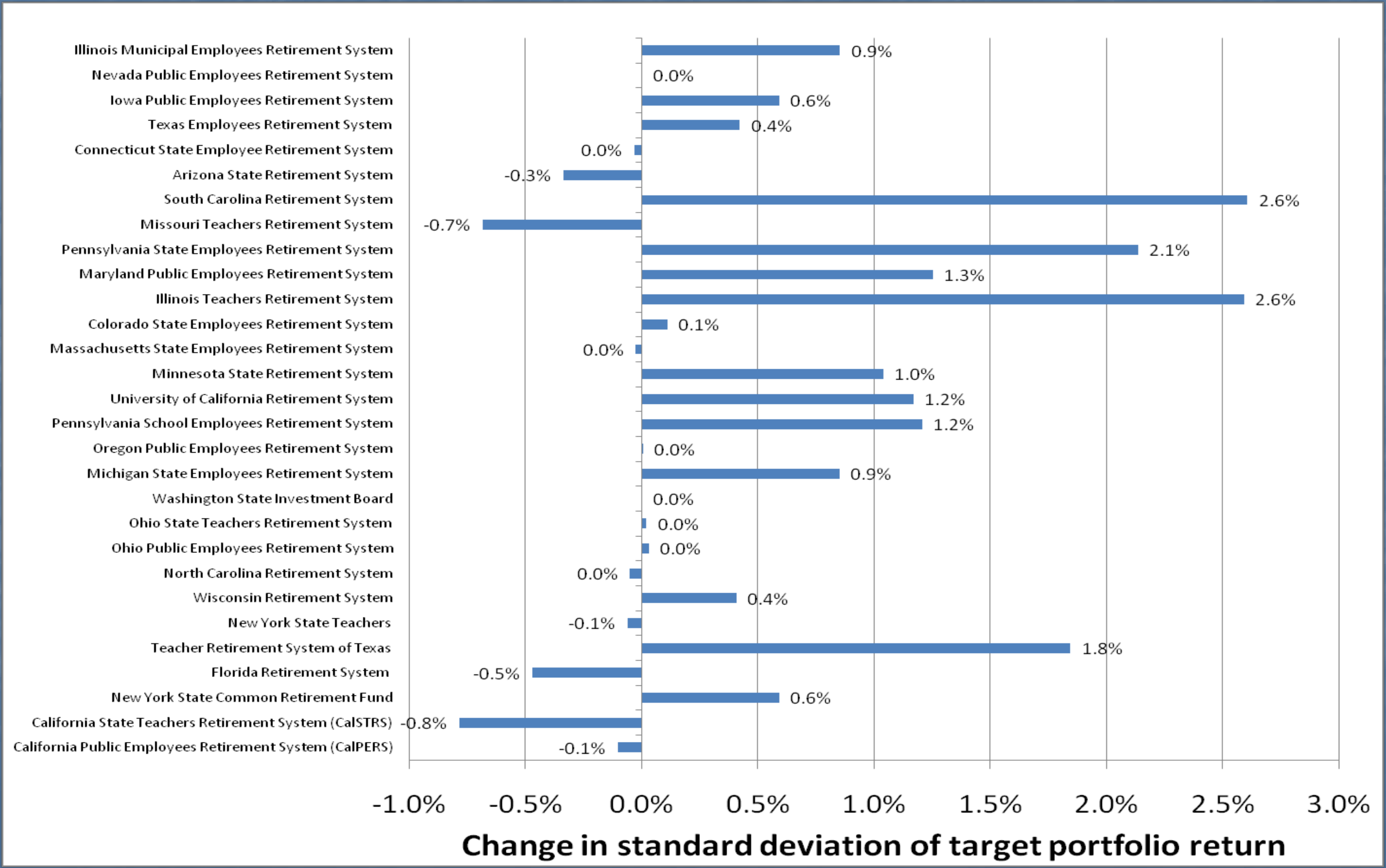
Correlation matrix

	Equities	Bonds	Alternate	Real Estate	Cash
Equities	1.00	0.29	0.75	0.35	0.00
Bonds	0.29	1.00	0.32	0.15	0.00
Alternate	0.75	0.32	1.00	0.35	0.00
Real Estate	0.35	0.15	0.35	1.00	0.00
Cash	0.00	0.00	0.00	0.00	1.00

Source: Author's calculations, from Wilshire Consulting.

Caveats: Due to limited detail of target asset allocations, matrix combines classes, e.g., US and foreign equities; U.S. and foreign bonds; private equity class includes hedge funds.

How risk changed



Results

- Mean standard deviation
  - 2007: 12.2%; 2010: 12.7%
  - 14 increased risk >0.3%; 5 reduced; 11 unchanged
  - Largest increase: 2.6% (S. Carolina/Illinois Teachers)
  - Largest reduction: 0.8% (CalSTRS)
- Mean return (using 2010 returns)
  - 2007: 6.35%; 2010: 6.51%
  - 6.5% return would increase ARCs by around 67% vs. 8% return

Conclusions

- Plans have increased risk on average
  - Most plans held reasonably steady
  - Small number may be “doubling down”
  - Very few have shifted back
- Further research
  - Compare to earlier period (e.g., 2001)
  - More detailed analysis by asset class
- What pensions themselves should do
  - Disclose risk of investments!