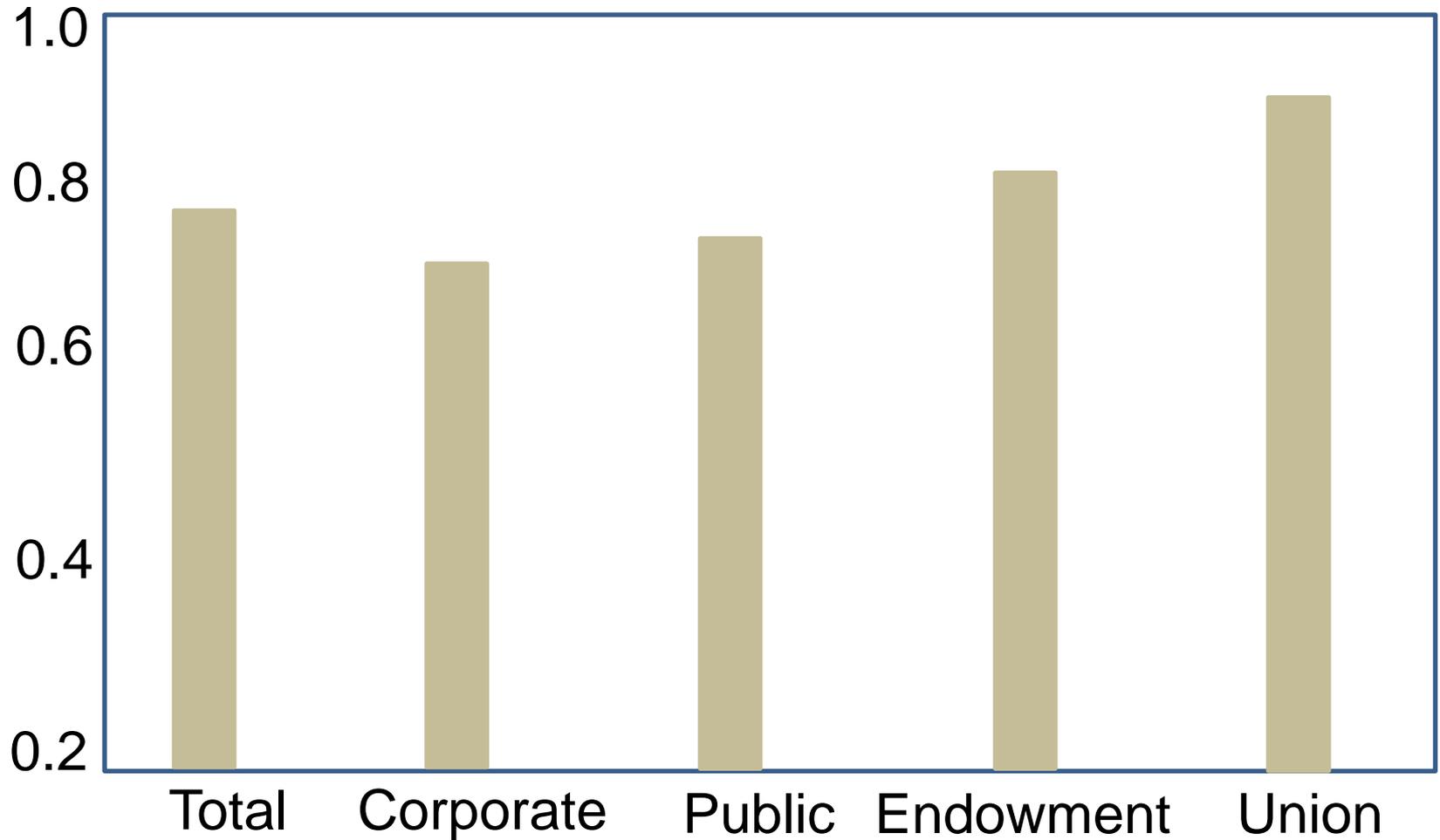


2018 Asset Liability Management: Long Term Outlook for Returns

January 17, 2017

Outperformance Expectations



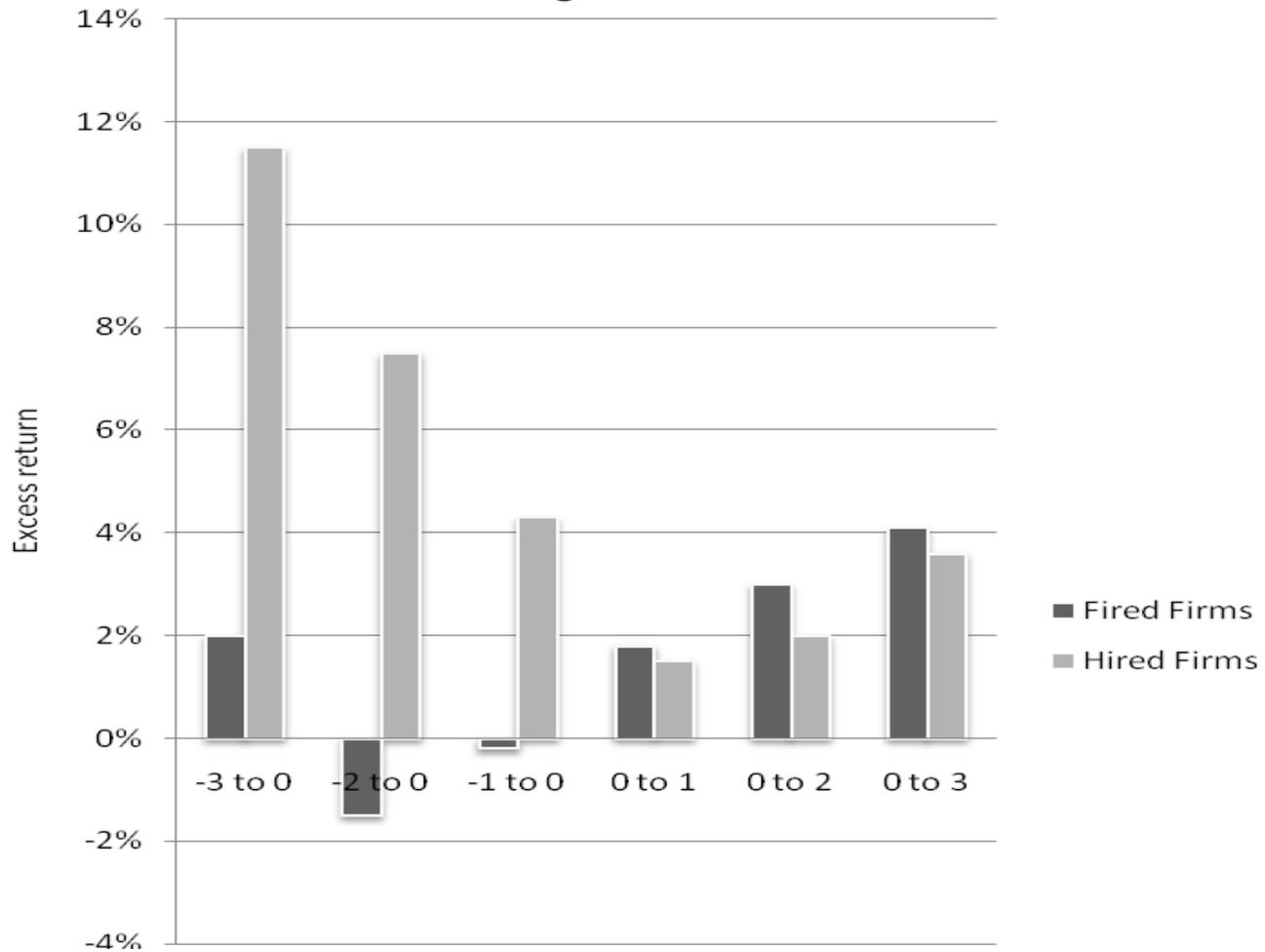
Disagreeable Data: Top Secret I

- Mutual funds underperform their chosen targets
 - 60% over “typical” year
 - 80% over 10 years
- Losers lose twice as much as winners win
- 40% of funds terminated
- 64% drifted off policy

Disagreeable Data: Top Secret II

- Institutional Investors Underperform
 - 75% “About average”
 - 25% Clearly below market average
 - 0.1% Clearly outperform market

Hired vs. Fired Managers

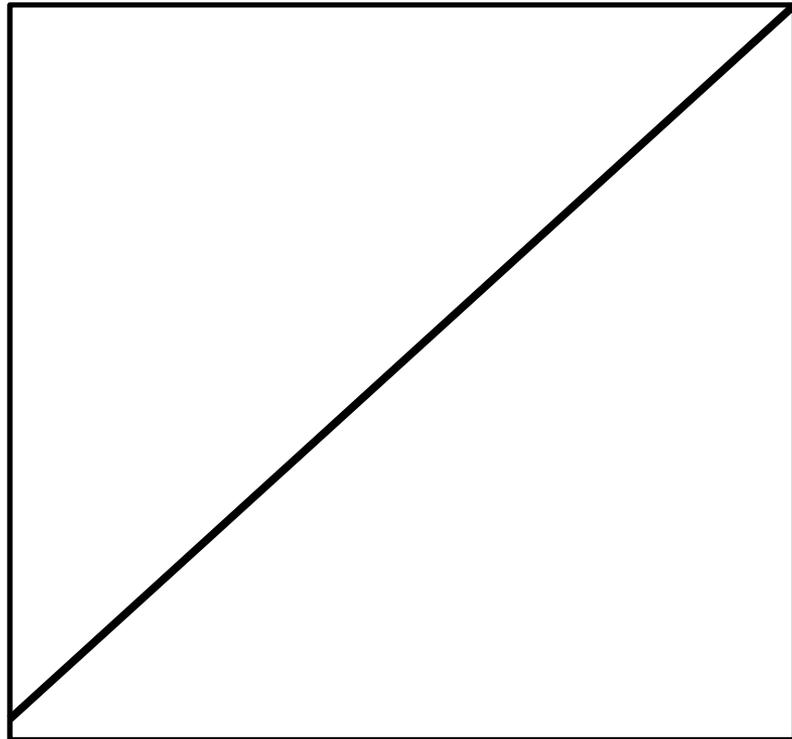


Know Your Opponents

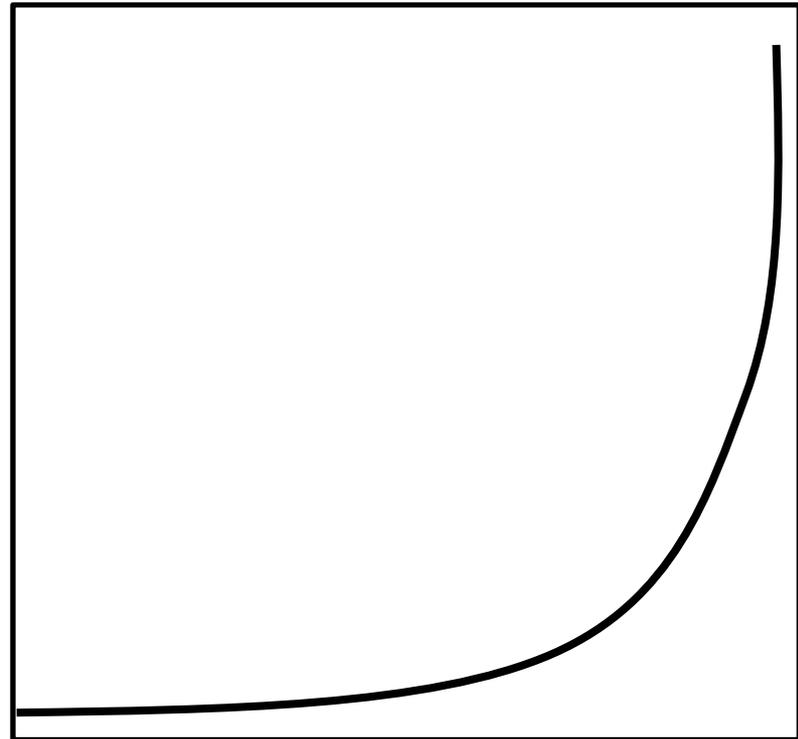
- 50 = 50%
- \$100M + up
- 2 'n' 25 = High motivation: HF, PE, Activists
- Globalization of investors
- Globalization of investment
- Mega markets: Stocks + Bonds + FX + RE + Oil + Gold
- Algorithmic trading

More Experts = Accelerating Challenge

Professional Trading



Degree of Difficulty



1960s

2017

1960s

2017

NYSE Changes Over Past 50 Years

Mix

10:90



95:5

Volume

1.5M

+



1.5B +

Major Changes Over 50 Years

- 300, 300, 300 + & + &
- Analysts, economists, demographers, portfolio strategists, industry analysts, accounting experts
- MBAs and PhDs and MDs
- 120,000 CFAs (and 300,000 candidates)
- Computer models
- Reg FD: Fair Disclosure
- Bloomburgs: 320,000 ++
- Internet, voice mail, global networks

Conventional Expectations

- Equity Returns 6 – 7% ?
- Bond Returns 2 – 2 ½ % ?
- Private Equity 8 – 9 % ?
- Hedge Funds 3 – 5 %

Can CalPERS Outperform?

- Higher returns?
- Lower costs?
- Better mix?
- Better market?