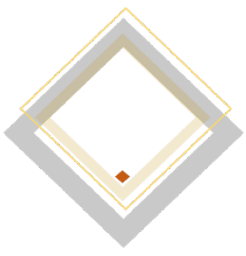


# Montana's Public Pension Investments 101

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For the State Administration and Veterans' Affairs  
Interim Committee

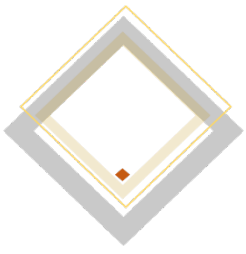
*By Sheri Scurr, Legislative Research Analyst  
November 14, 2017*



# Presentation will cover...

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- Unified Investment Program
- Roles & responsibilities
- Basic concepts and terminology
- Asset allocations
- Performance and comparisons
  - *Primary sources: Montana Board of Investments materials, BOI consultants - RVK and CEM Benchmarking*
- Deeper dives? – committee discussion on expert panel

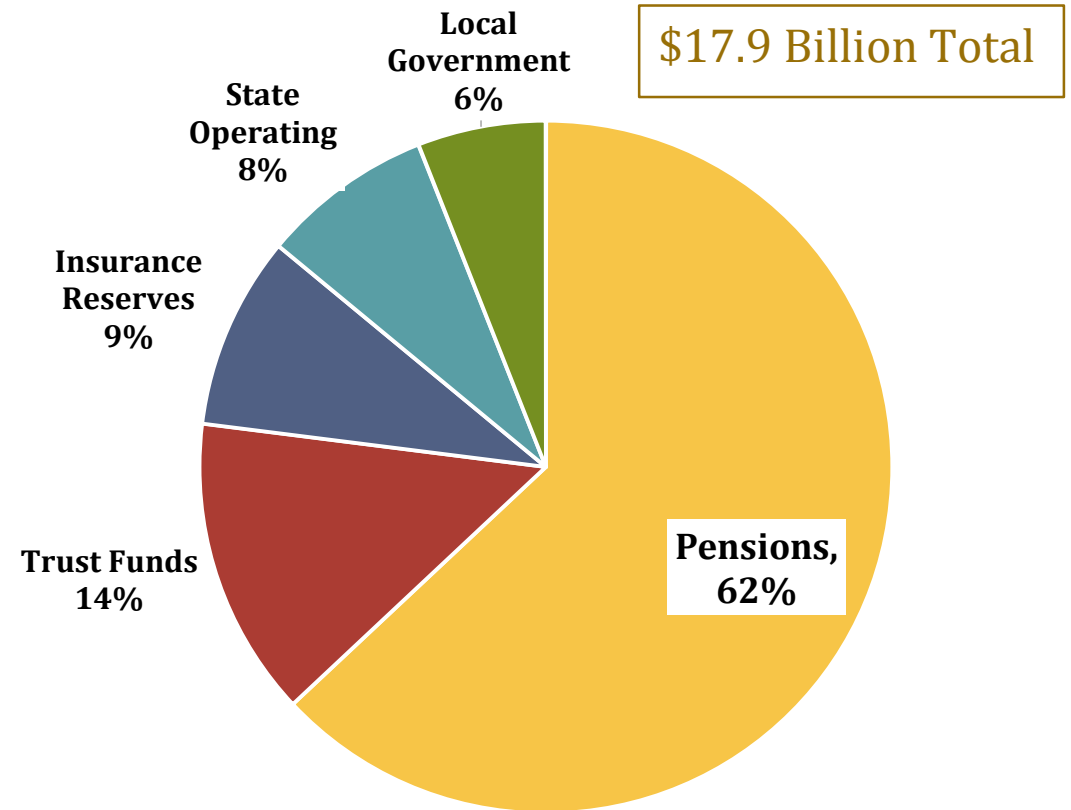


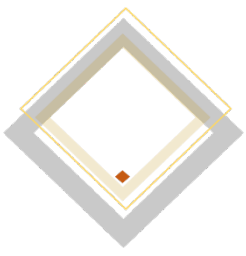
# Unified Investment Program

TOTAL FUND  
MBOI Snapshot (rounded) as of 9-30-2017

## Montana Constitution. Art. VIII, Sec. 13

- (1) The legislature shall provide for a **unified investment program** for public funds and public retirement system and state compensation insurance fund assets and provide rules therefor, including supervision of investment of surplus funds of all counties, cities, towns, and other local governmental entities.
- (3) Investment of public retirement system assets shall be managed in a **fiduciary capacity** in the same manner that a **prudent expert** acting in a fiduciary capacity and familiar with the circumstances would use in the conduct of an enterprise of a similar character with similar aims. Public retirement system assets may be invested in private corporate capital stock.

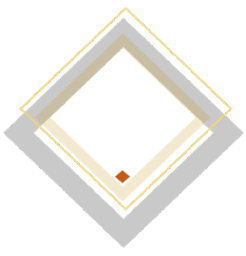




# Board of Investments – Dept. of Commerce

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- Quasi-judicial board – section 2-15-124, MCA
- 9 members appointed by the governor, confirmed by Senate
  - 1 member represents PERB, 1 member represents TRS
  - 7 members experienced in investments, represent financial community, small business, agriculture, and labor – one must be an attorney
  - terms concurrent with gubernatorial terms, intent is majority appointed at beginning of governor's term, remaining appointed in middle
- 2 legislators – nonvoting
  - Senator and Representative, different political parties



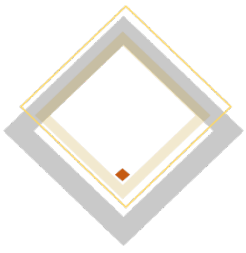
# Roles & Responsibilities

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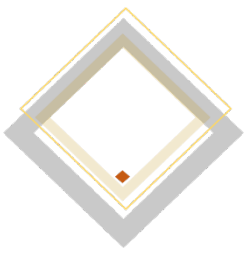
- Board oversees unified investment program - sets policies
- Executive Director accountable to Board
- Chief Investment Officer (CIO)
  - top management for investments, investment staff; recommends policies to Board
- Consultants
  - RVK, Inc. – reports directly to the Board, quarterly analysis of returns, asset allocation, market outlook, peer and cost comparisons, makes independent recommendations
  - CEM Benchmarking, Inc. – works with staff, presents to MBOI annual peer comparisons on returns and costs, additional lens on performance
- State Street – custodial bank

# Board of Investments - Operations

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- In public meetings, Board sets
  - Overall Performance Benchmarks
  - Asset allocation ranges
  - Investment objectives, guidelines, and benchmarks for each asset class
  - Management policy
- Annual work plan – 6 meetings
  - <http://investmentmt.com/Meetings>
- Key Presentations
  - RVK – quarterly reports, deep dives into each asset class, benchmarking analysis & recommendations
  - CEM – annual peer group comparisons
  - CIO – ongoing investment and performance updates
  - Board’s ongoing education on key topics, and policy reviews and updates

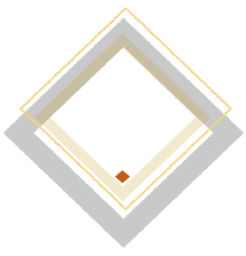


# Board's Strategic Objectives

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- Best rates of return possible but...
- Within acceptable risk tolerance and
- Under prudent expert practices
- Long-term horizon (institutional investor) – at least 10-years out

See Montana Public Retirement Plans Investment Policy, Approved April 5, 2017, p. 4

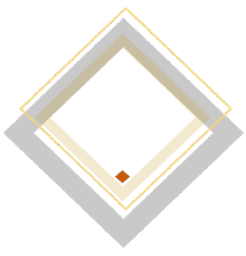


# Basic Concepts & Terminology

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- Portfolio = collection of investments that includes allocation of investments among various “asset classes”
  - Aggressive = better potential for higher gains in long-term, but higher volatility
  - Conservative = less volatility, but less potential for higher gains in long-term
- Asset class = group of securities with similar characteristics and behaviors
  - Main classes = equities; fixed income; cash
  - Subsets = for example, domestic, international; large cap, mid cap, small cap; venture capital; real estate; etc.
  - Alternative investments = hedge funds (MBOI does not invest in hedge funds)

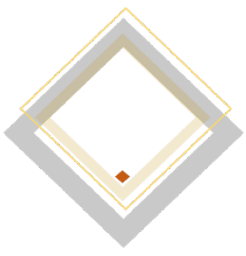




# Basic Concepts & Terminology - continued

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- Diversification = risk management technique
  - Mix of a variety of investments (by type, sector, geographical region, etc.)
- Fund = a group of investments under a particular manager
  - Managed based on an certain investing strategy
- Fund Manager = company/individual that decides on how assets in the fund are invested
- Risk = exposure to chance of loss and of not meeting objectives
  - Risk management strategies – (1) monitor liquidity needs, manager performance, sector situation, etc., (2) comply with portfolio policies – discipline, (3) active involvement of prudent experts in assessing overall risk perspective.
  - Note: other kinds of risk, such as standard deviation on returns (beyond scope of this presentation)



# Basic Concepts & Terminology - continued

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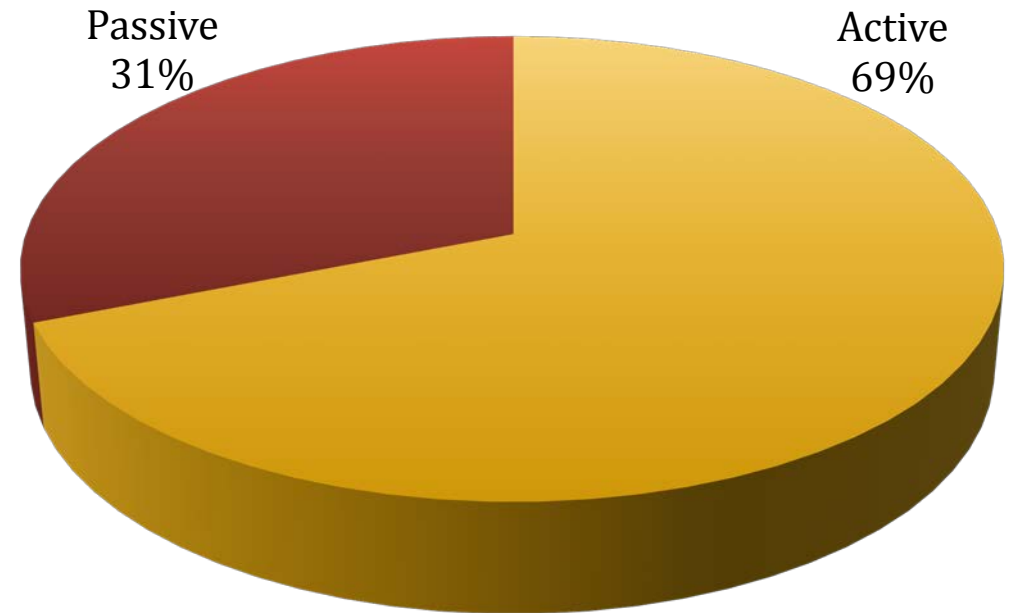
- **Asset Allocation**
  - How total assets are allocated among various asset classes
  - Asset mix is most important driver of total returns
- **Rebalancing**
  - Done when gains or losses in an asset class require reallocation of assets among the classes to maintain target asset allocation ranges – or, rebalancing may be done within a particular asset class to reach certain objectives
- **Liquidity**
  - The ability to convert investments to cash to pay cash flow needs, i.e., pension benefits
- **Net cash flow**
  - The net of cash coming in as plan contributions and cash going out as benefits
  - Need for cash may result in need to rebalance the portfolio to provide more liquidity.

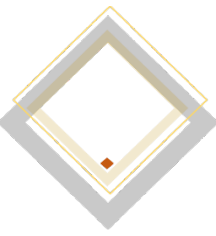
# Basic Concepts & Terminology - continued



- Active management
  - fund manager analyzes market, buys and sells based on certain strategy
- Passive management
  - minimal buying and selling
  - essentially trying to an index fund
- MBOI considers various factors when deciding management style
  - not every type of investment can be passively managed

Management of Montana's  
Pension Investments  
(MBOI Snapshot as of 9-30-2017)



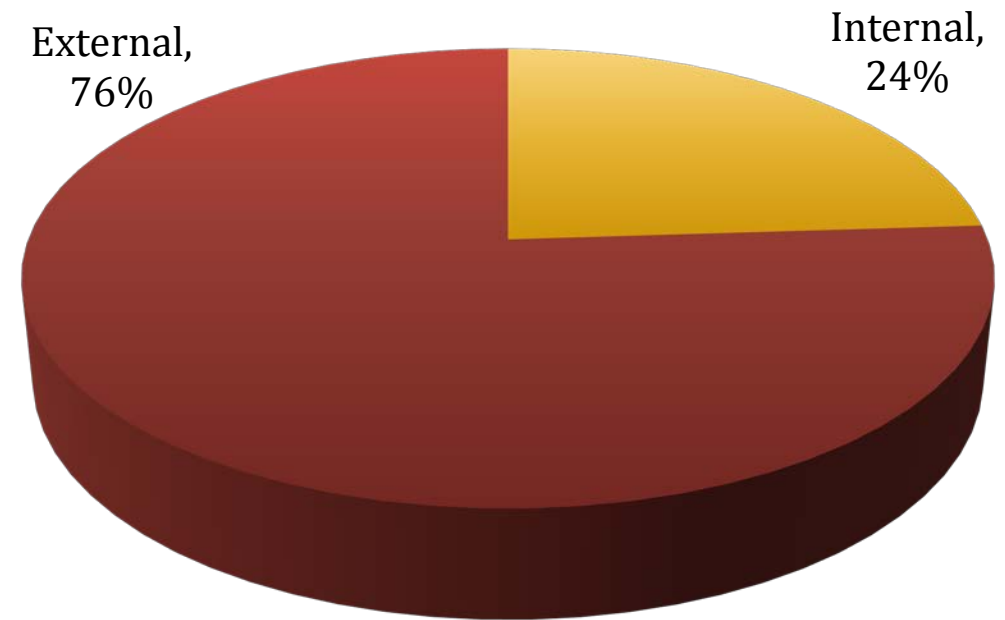


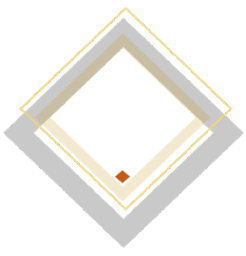
# Basic Concepts & Terminology - continued

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- Internally Managed Funds
  - Board staff
- Externally Managed Funds
  - Contracted managers
- Risks in any style of management
  - i.e., different pros and cons

Management of Montana's  
Pension Investments  
(MBOI Snapshot as of 9-30-2017)

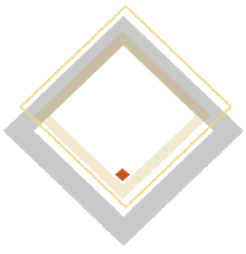




# Pension Plan Investments – Big Picture

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- Each plan invests in:
  - Consolidated Asset Pension Pool (CAPP) and
  - Short-term Investment Pool (STIP)
- CAPP invested according to MBOI's asset allocation strategy
  - Each plan's assets still accounted for separately
- About 2% currently kept in STIP

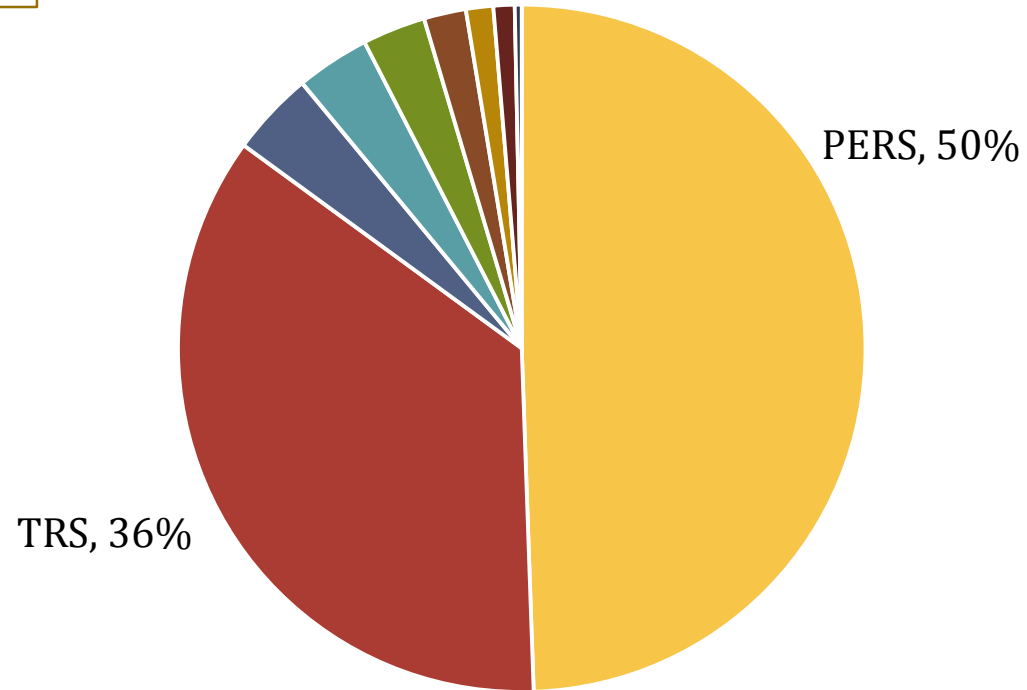


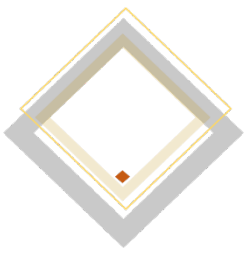
# Pension Plans as Percentage of Total Pension Assets

\$11.3 Billion Total

MBOI Snapshot as of 9-30-2017, rounded

- PERS
- TRS
- FURS
- MPORS
- SRS
- GWPORS
- HPORS
- JRS
- VFCA

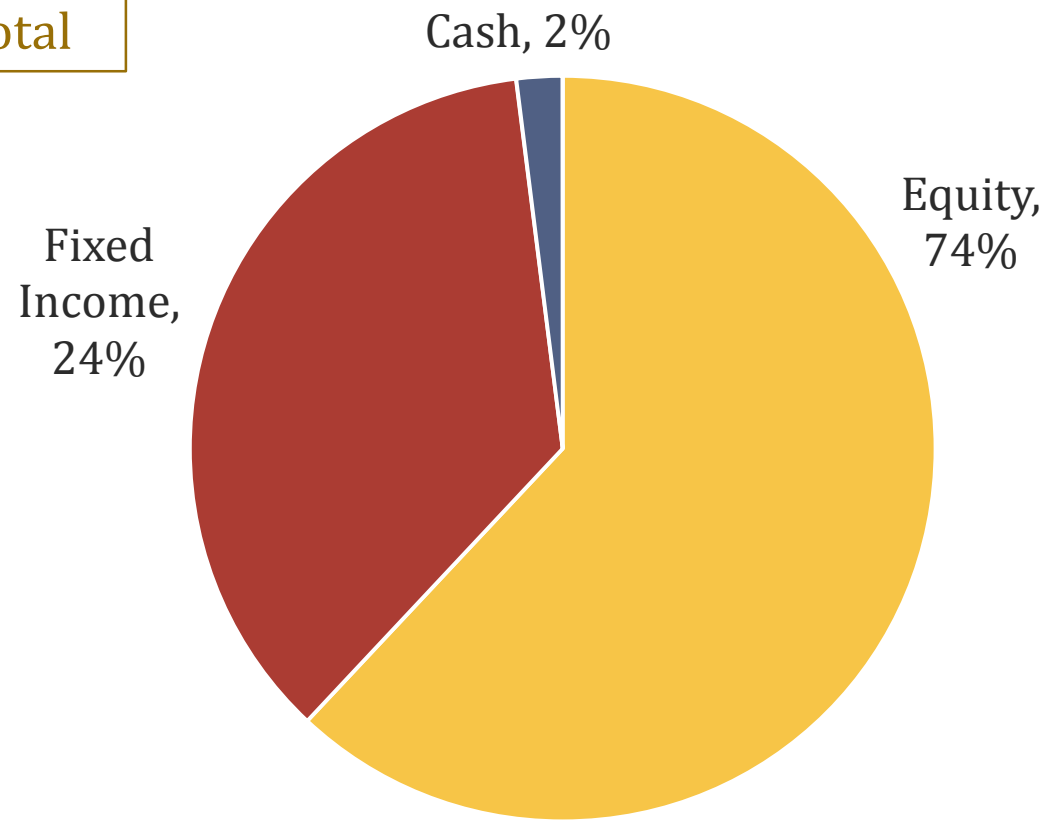


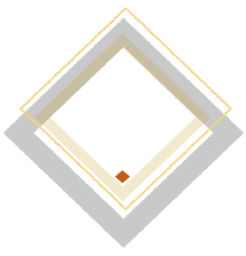


# CAPP Asset Allocation By Main Class

*MBOI Snapshot, 9-30-17, rounded*

\$11 Billion Total





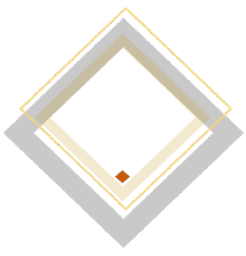
# Asset Allocation

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<b>Asset Class</b>	<b>Approved Range % *</b>	<b>Actual % as of 9-30-17 (rounded)</b>
<b>EQUITIES</b>		
Domestic Equities	24-38	35
International Equities	12-18	18
Private Equities	9-15	10
Real Estate	4-12	8
Natural Resources	0-6	2

*\*Ranges as approved by MBOI on April 5, 2017*

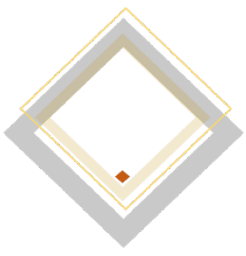




# Asset Allocation - continued

Asset Class	Approved Range %	Actual % as of 9-30-17 (rounded)
<b>FIXED INCOME</b>		
US Treasury/Agency	5-14	8
Agency Mortgage Backed Securities	2-8	4
Investment Grade Credit	2-6	4
High Yield Bonds	1-5	2
US Treasury Protected Securities (TIPS)	0-4	4
Broad Fixed Income	1-3	2
<b>CASH</b>	1-6	3

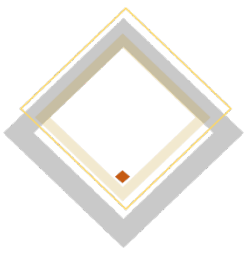
*\*Ranges as approved by MBOI on April 5, 2017*



# For More Information

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- Montana Board of Investments website
  - <http://investmentmt.com/Home> - work plan and meeting materials available
  - see also Legislative Branch website - <http://leg.mt.gov>
- April 5, 2017, MBOI meeting
  - Benchmarking Education by RVK – Tab 4
  - Board’s Retirement Plans Investment Policy – Tab 7
- Aug. 23, 2017
  - CEM – Annual Cost Analysis (Peer Comparison) – Tab 5
  - RVK – Market performance review and asset allocation analysis – Tab 6
  - CIO – Investment update on retirement plans – Tab 9



# Performance Measures

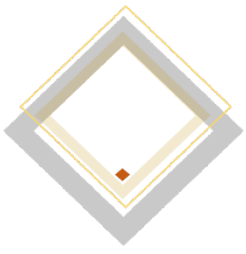
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**Actual Returns**

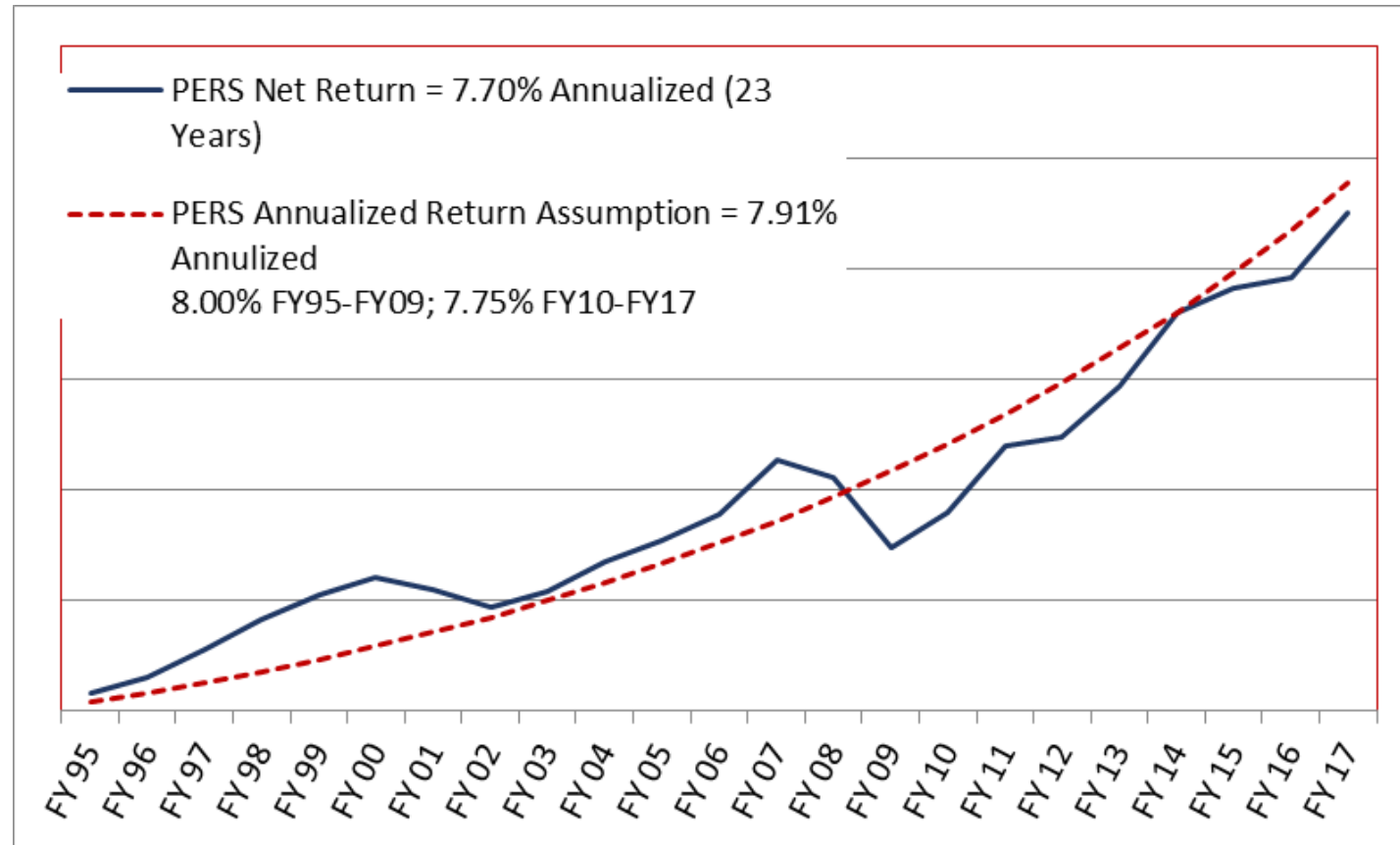
Comparison to Benchmarks

Comparison to Peers

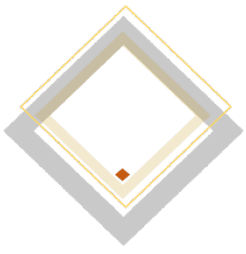




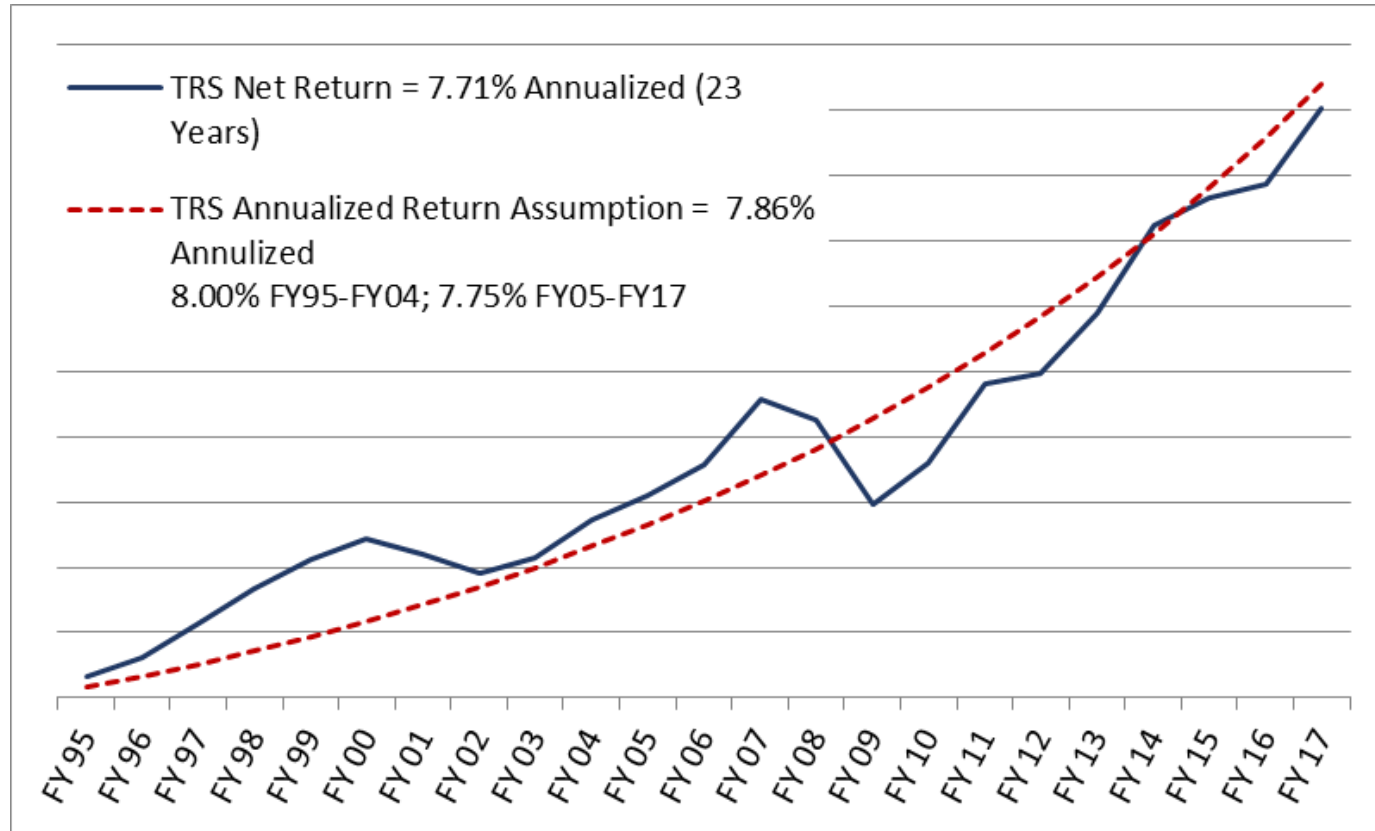
# PERS Actuarial Assumed Return Compared to Actual Net Return



Source: Montana Board of Investments



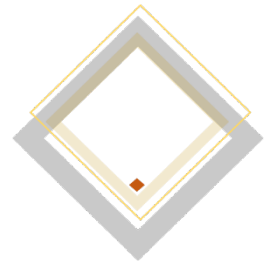
# TRS Actuarial Assumed Return Compared to Actual Net Return



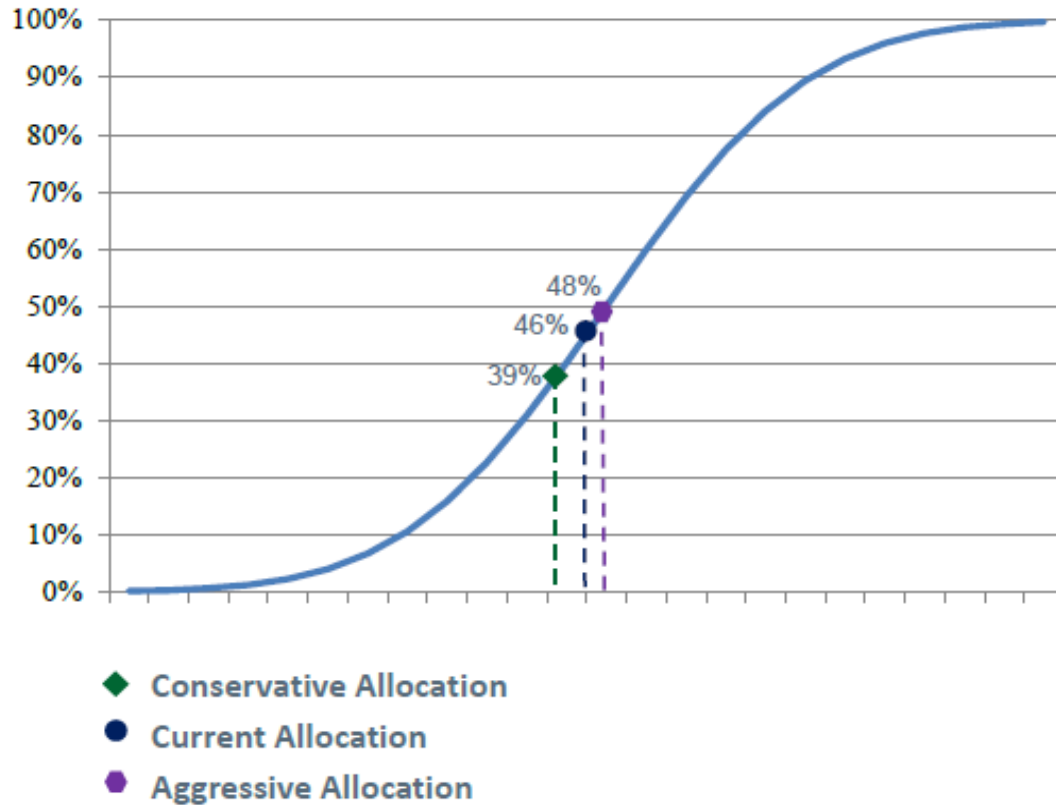
Source: Montana Board of Investments

# RVK Probability Analysis

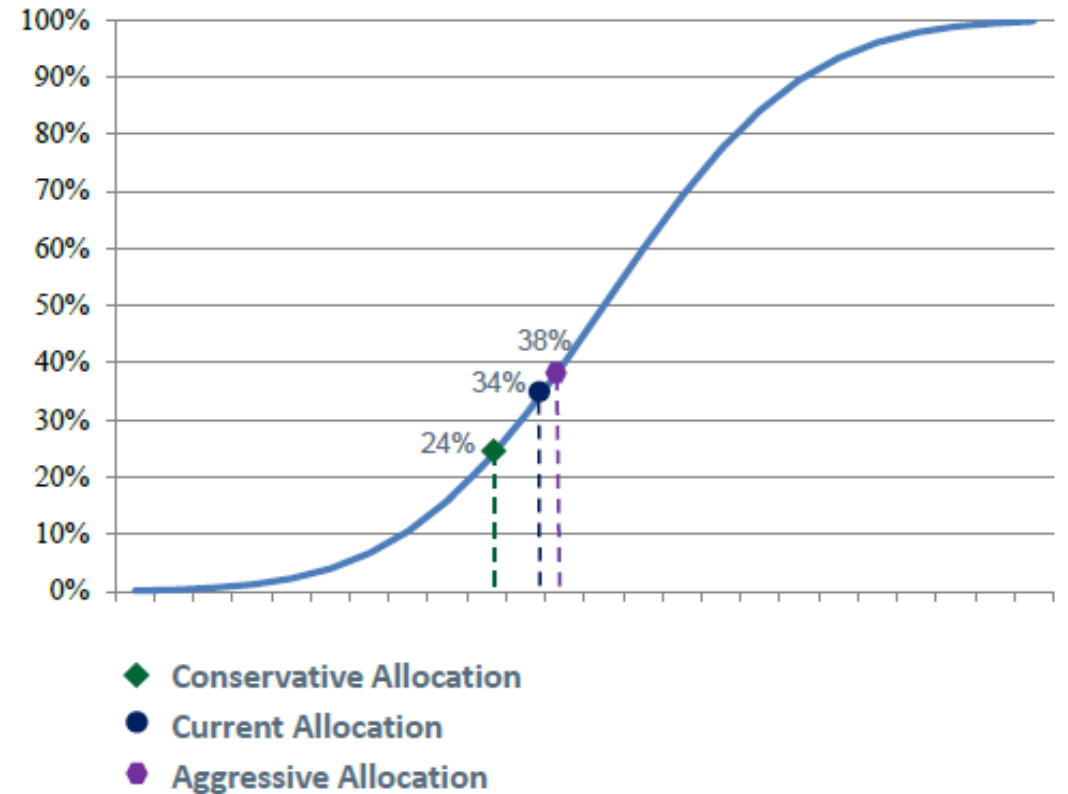
*presented to MBOI on April 5, 2017*



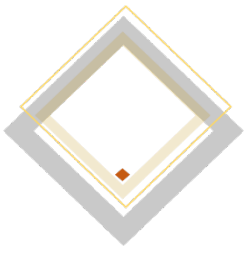
**Cumulative Probability Distribution for Achieving 7.00% Return over 10 Years**



**Cumulative Probability Distribution for Achieving 7.75% Return over 10 Years**

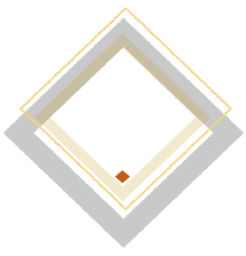


# RVK Analysis of Returns Compared to Performance of MBOI Benchmarks (self-imposed)



	<b>FYTD (1 year)</b>	<b>5 Years</b>	<b>10 Years</b>
PERS Net	11.94	9.62	5.33
Benchmark performance	11.96	10.05	5.65
Difference	<b>-0.02</b>	<b>-0.43</b>	<b>-0.32</b>
TRS Net	11.92	9.62	5.34
Benchmark performance	11.95	10.06	5.65
Difference	<b>-0.03</b>	<b>-0.44</b>	<b>-0.31</b>

Source: Based on RVK presentation to MBOI Aug. 22, 2017, Part 2, page 2



# RVK Analysis - Strategic Asset Allocation

## Risk Adjusted Returns

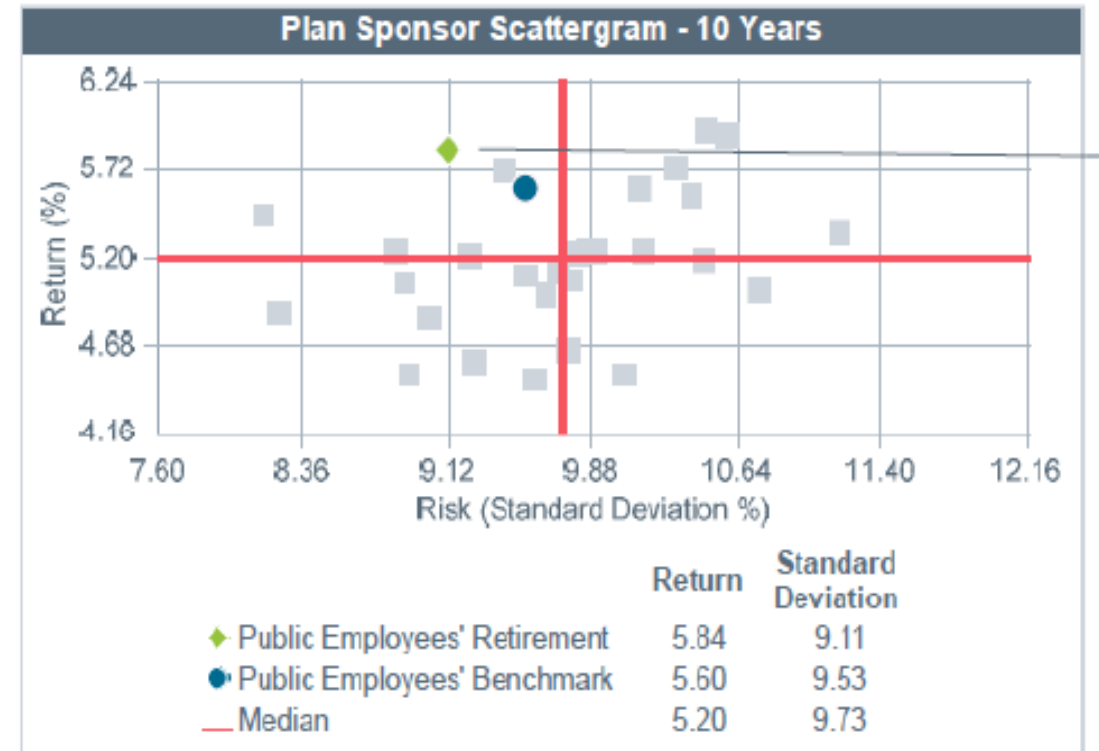
### RVK finding

- **On a risk-adjusted basis\***...MBOI achieved higher returns than peers with less risk over a 10-year period.

### Risk vs. Return Grid

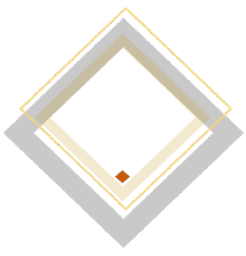
- Ideal placement is in the upper left quadrant (i.e., lower risk/higher return relative to peers)

\* Risk based on standard deviation of returns



RVK presentation to MBOI on April 5, 2017, Tab 4, Appendix 1, page 7





# CEM Benchmarking, Inc. – Annual Analysis

*Presented to MBOI on Aug. 22, 2017*

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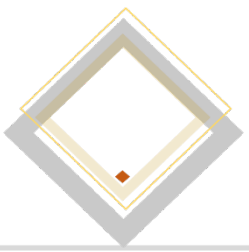
## What was measured

- Returns
- Costs

For 5-year period  
ending Dec. 31, 2016

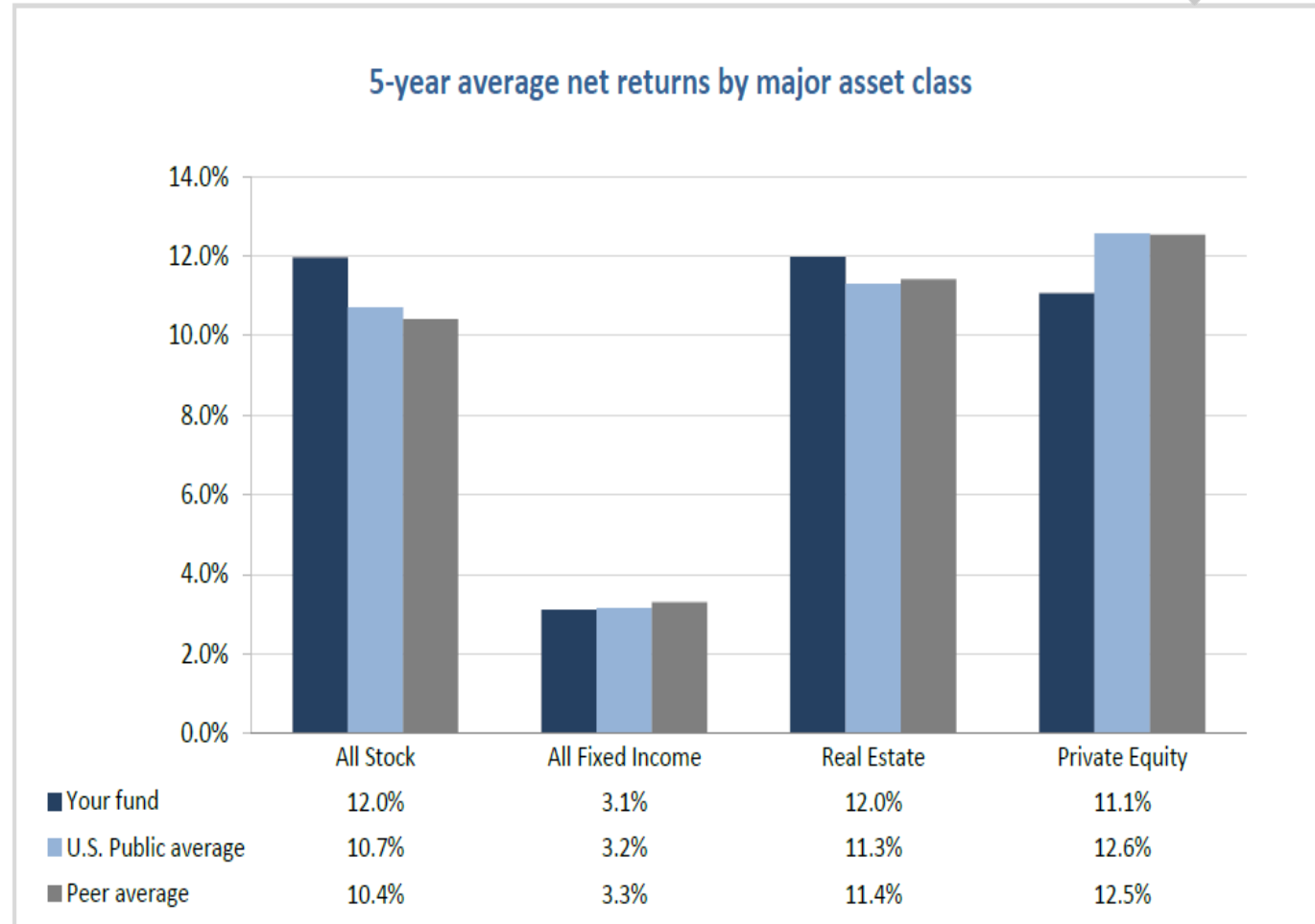
## CEM's database for these comparisons

- 131 U.S. pension funds
  - 45 U.S. public pension funds
  - **18 = peer group used for cost comparisons**

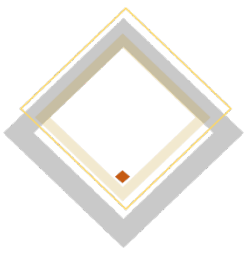


# Net Return

- 5-year **net** return = 9.4%
  - Above U.S. public median of 8.7%
  - Above peer median of 8.7%
- Reasons higher net return
  - Higher weight in U.S. stock than peers
  - Higher weight in private equity than peers
  - 0% in hedge funds, peers had 5%



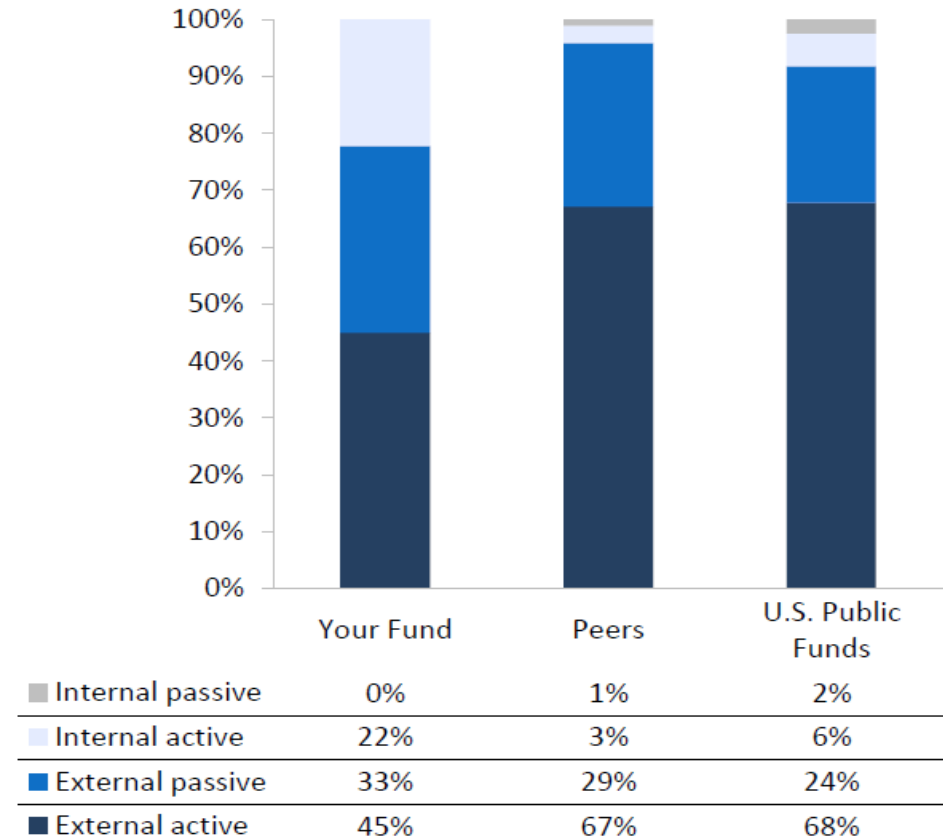
Source: CEM Benchmarking, Aug. 22, 2017, presentation to MBOI, slide 11



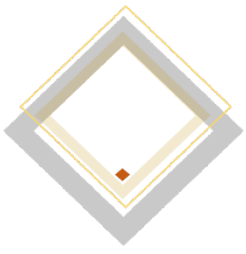
# Costs

- MBOI's pension investment costs decreased slightly between 2012 and 2016
- Costs lower than costs peers would have incurred with same portfolio
  - Benchmark peer group = 0.630%
  - MBOI costs = 0.582%
  - Difference = 0.048%
- MBOI used less external active management than peer group

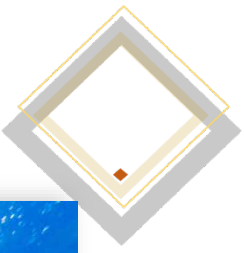
Implementation style<sup>1</sup>



CEM Benchmarking, Aug. 22, 2017, presentation to MBOI, slide 18



# Questions?

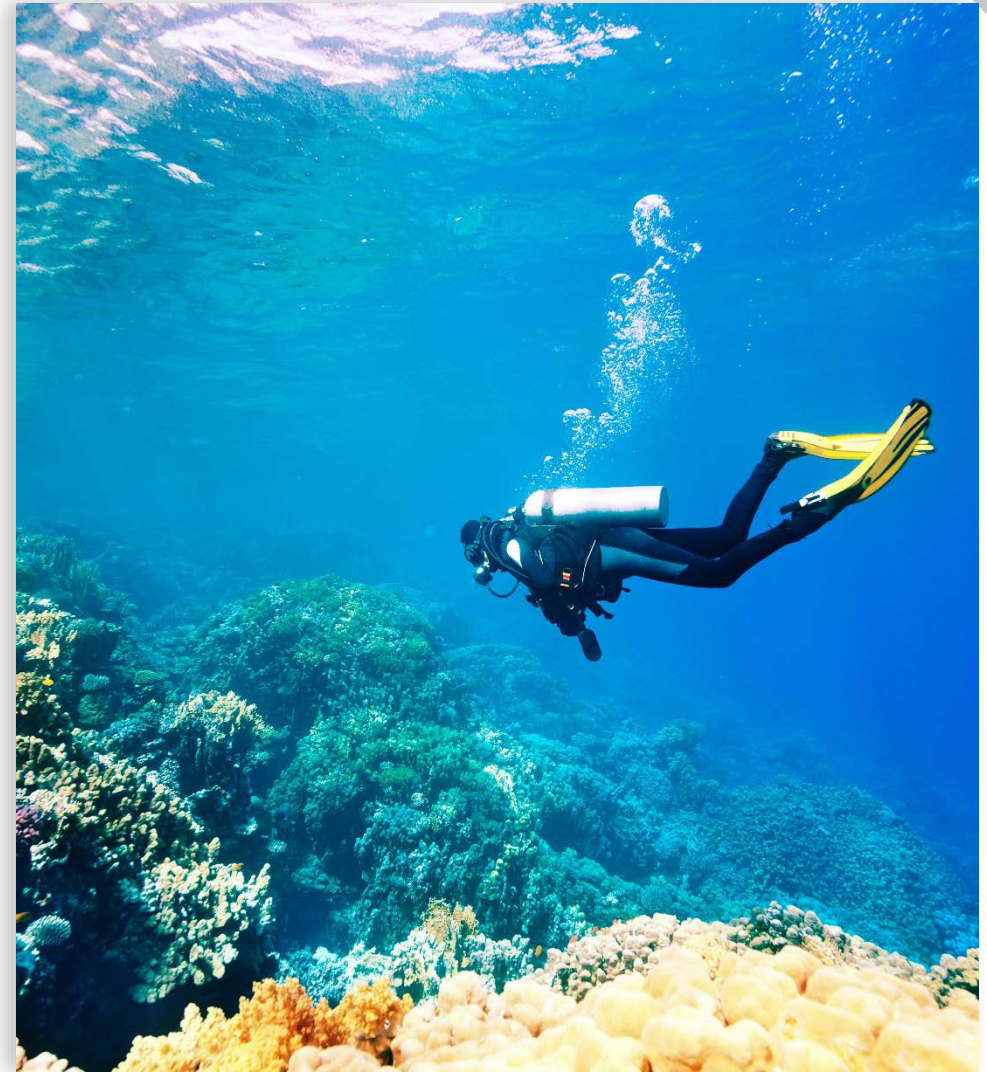


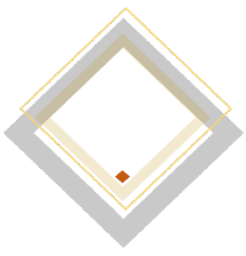
# Future Meetings

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## Deeper Dives?

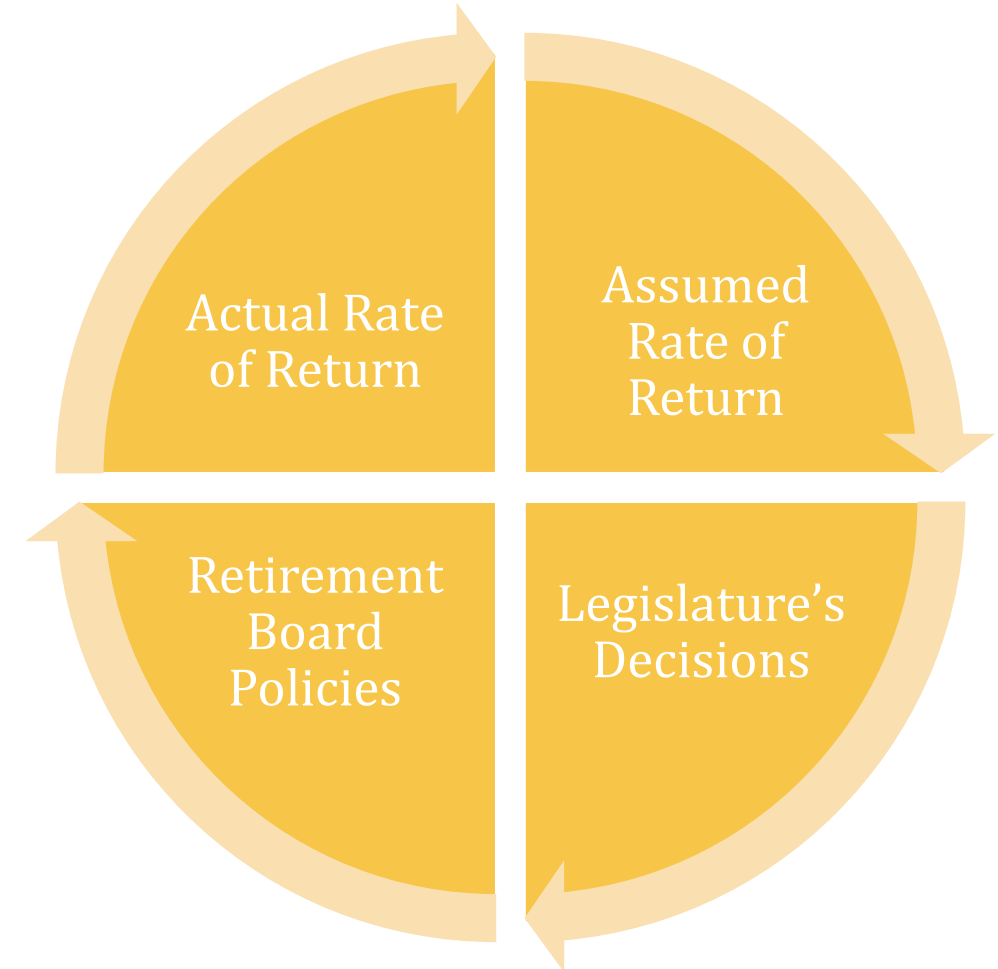
- Actuarial Assumptions?
- Investments?
- Other?

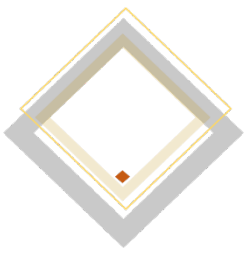




# More About Actuarial Assumed Rate of Return?

- How do actuaries set the assumed rate of return?
- How does this assumed rate influence MBOI strategies and/or is the actuarial assumption driven by asset allocation?
- How does this influence the retirement system board policy goals?
- How does all of this influence legislative decisions?





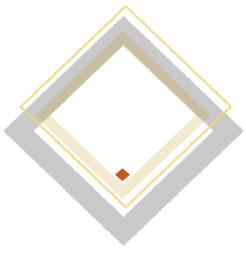
# More About Investments?

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- More about CEM and RVK reports to MBOI?
- More about:
  - Asset allocations?
  - Management styles?
  - Expenses?
  - Other?
- Who to invite?

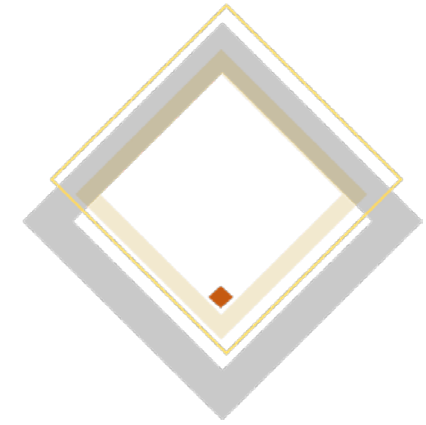


# Potential Resources – Expert Panel



- Council of State Governments – recent panelists from:
  - National Association of State Retirement Administrators (NASRA)
  - National Public Pension Coalition
  - National Conference on Public Employee Retirement Systems
- [publicplansdata.org](http://publicplansdata.org) - contributors
  - Center for Retirement Research at Boston College
  - Center for State and Local Government Excellence
  - NASRA
- Others
  - Actuaries - if actuarial investment return assumption is topic
  - NCSL staff
  - Other suggestions?
- Speaker expenses must be considered





# Committee Discussion & Direction On Topics and Expert Panelists For Next Meeting

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