



Investment Committee

Feb. 16, 2023

Investment Committee Agenda



- Update on investment consultant search
- Investment beliefs – active management
- Discussion

Update: Investment Consultant Search



- Issued request for proposal November 2022
- Evaluation of qualifying proposals February 2023
- Finalist firms present to the committee March 2023
- Reference calls April 2023
- Selection of successful firm(s) May 2023
- Contract(s) negotiated / executed June 2023
- Commencement date of contract(s) July 2023

Update: Investment Consultant Search



- Received three submissions to request for proposal
- Evaluated the proposals
- Two general investment consultant responses
- Two alternative investment consultant responses
- Schedule finalist presentations to the committee – March 15, 2023

- **Three presentations to the committee of 75 minutes each**
 - 15 minutes introduction to firm and consultants
 - 50 minutes of question and answer
 - 10 minutes consultants' final remarks
- **Each presentation followed by a 45-minute break**

Propose Staff Prepare Consultant Interview Questions



- Experience with defined benefit, health care and defined contribution plans
- Role of investment consultant with respect to the trustees and staff
- Roles of investment beliefs, investment policy, and fund governance
- Asset-liability modeling & asset allocation philosophy
- Use cases for active and passive investment management
- Use of internal and external investment management
- Philosophy with respect to investment management costs
- Liquidity management given the maturity of the fund
- Investment benchmark philosophy
- Performance monitoring and reporting
- Best ideas to increase risk-adjusted return
- Investment manager due diligence review and external manager search

- Investment committee comments, suggestions and discussion
- Propose schedule presentations with candidates



Review of Investment Beliefs

Feb. 16, 2023

- **Previous board meetings**

- Staff and Callan proposed set of investment beliefs to the Retirement Board
- Peer comparison of widely held investment beliefs
- Staff addressed questions regarding active and passive strategies
 - Active and passive strategies widely employed across pension funds
 - STRS Ohio's active management outperformed and increased market value
 - Research presented had no data issue

- **This presentation**

- Review of investment beliefs and conclusions based on staff's research
- Propose final set of investment beliefs

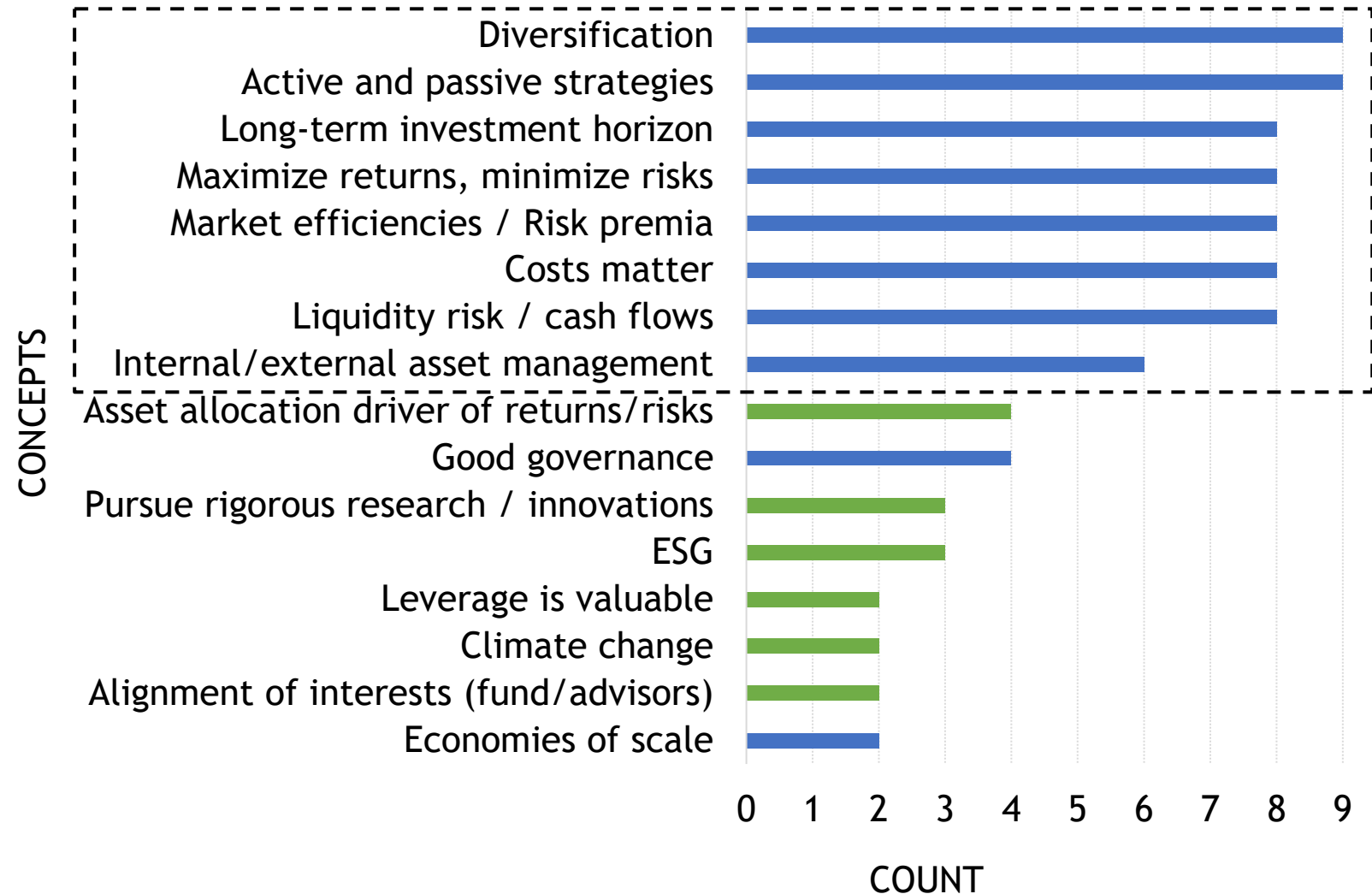
Investment Beliefs: Peer Comparison



- Funds**

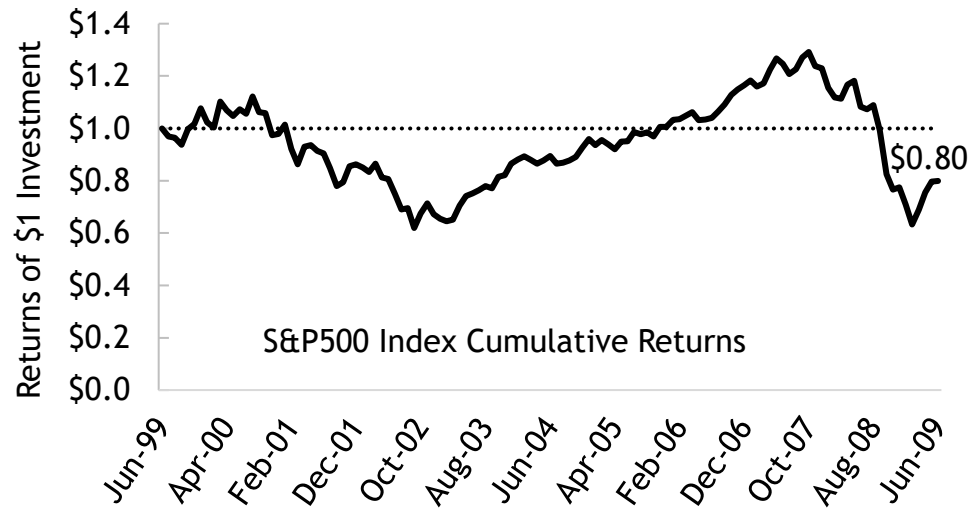
- CALSTRS, CALPERS, Washington State Inv. Board, Virginia Retirement System, NYSTRS, NY State Common Retirement Fund, Wisconsin Investment Board, CPPIB and HOOPP
- Blue bars: recommended beliefs

Key Concepts in Investment Beliefs/Philosophies/Strategies

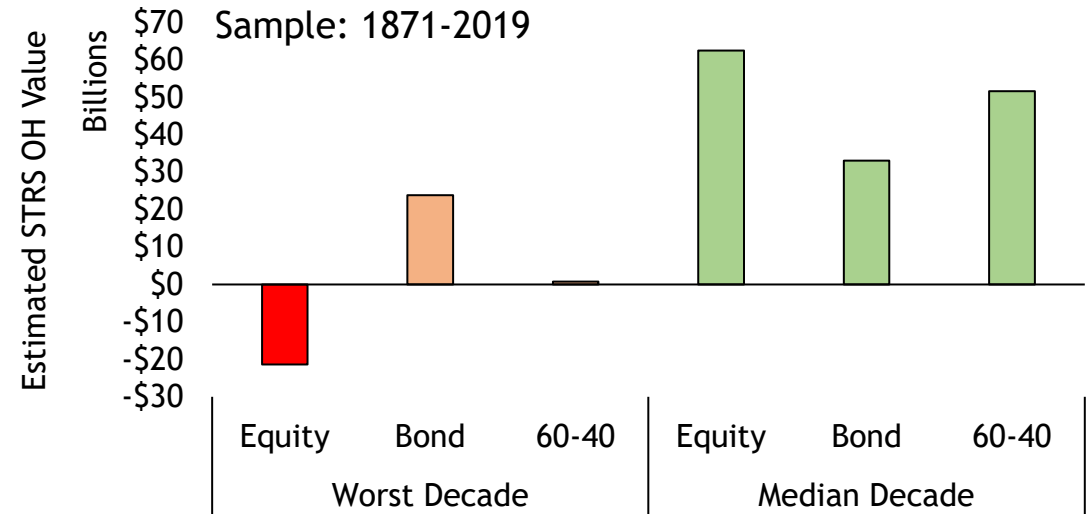


Diversification means do *not* put all your eggs in one basket

It is never prudent to invest in one single market



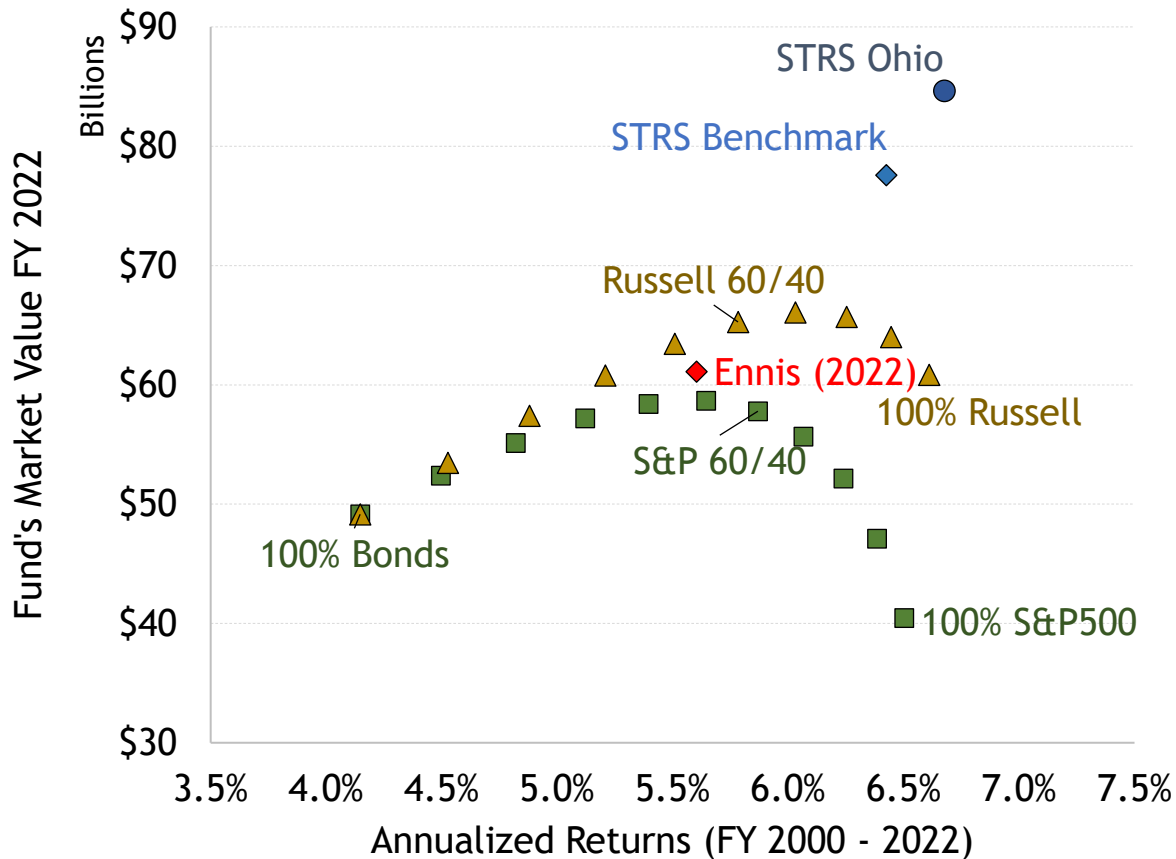
Simulating 6/2019 Fund Value by Using Historical Returns



- Prudence (Ohio law) requires a diversified portfolio
- Diversification = do not put all your eggs in one basket

Simulation: employ historical data to estimate the 10-year evolution of STRS Ohio's market value using July 2009 as the starting point. The initial market value is \$51bn (as at the end of June 2009), the benefits paid were \$66bn and the contributions received were \$29bn (as during the fiscal years 2010-2020). Returns are in gross terms. Equity returns are from Kenneth French's dataset from July 1926, and from Robert Shiller for the earlier period. We employ the Bloomberg Aggregate Bond index from February 1992, and we approximate bond returns with the 10-year Treasury government bond for the earlier periods (data from Robert Shiller).

Investment Beliefs Interact: Diversification, Cash Flows and Active Management



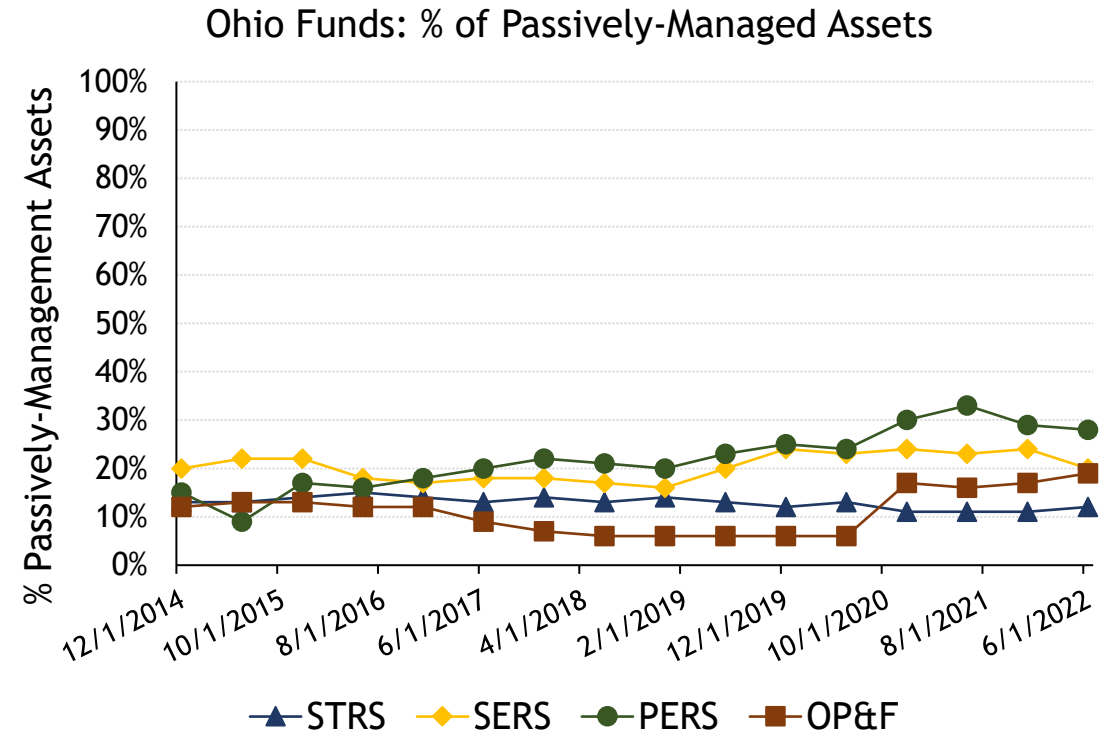
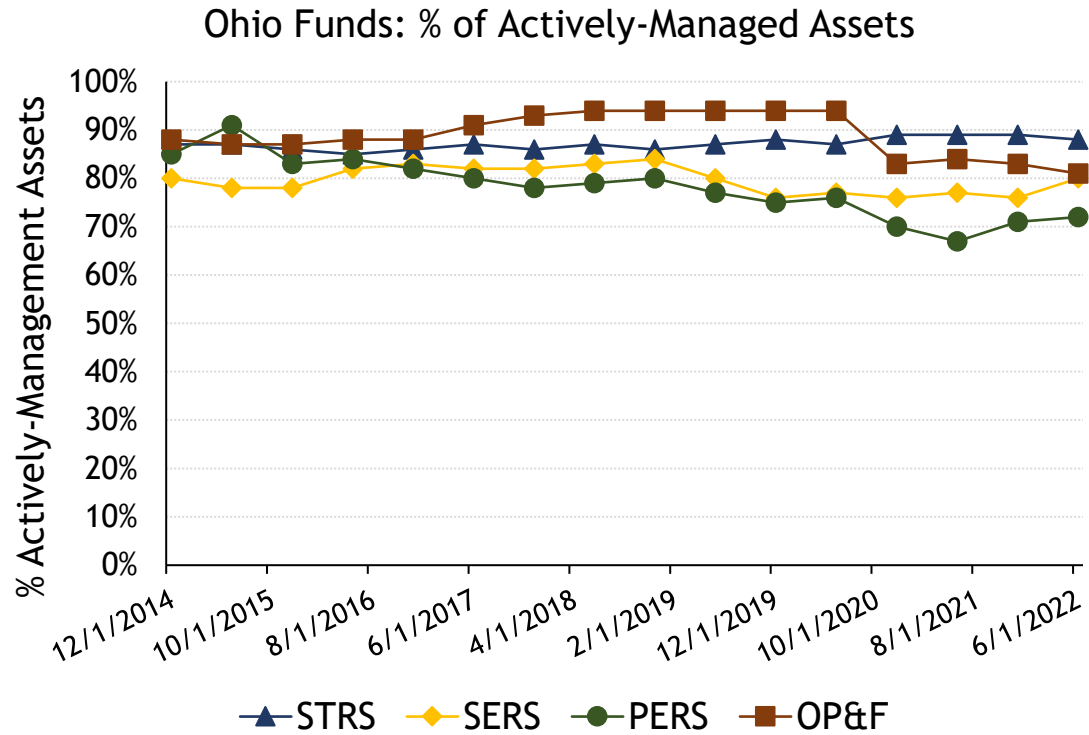
- **Net benefits paid: \$63.8 billion**
 - Paid \$123.5 billion in benefits, received \$59.6 billion
- **Ennis (2022)'s portfolio**
 - Approximate STRS Ohio's Asset Allocation in 2002
- **Increase diversification: S&P500 to Russell 3000**
 - + Added additional \$8.2 billion
- **Board chose diversified benchmarks**
 - + Added additional \$11.5 billion
- **Board's decision to embrace active management**
 - + Added additional \$7 billion

Notes: Estimate STRS Ohio's market value in FY 2022 based on asset allocation and investment decisions at the beginning of FY 2000. Estimates are net of all investment costs.

Result is an additional \$26 billion available to pay benefits to members

Investment Belief: Active and Passive Management

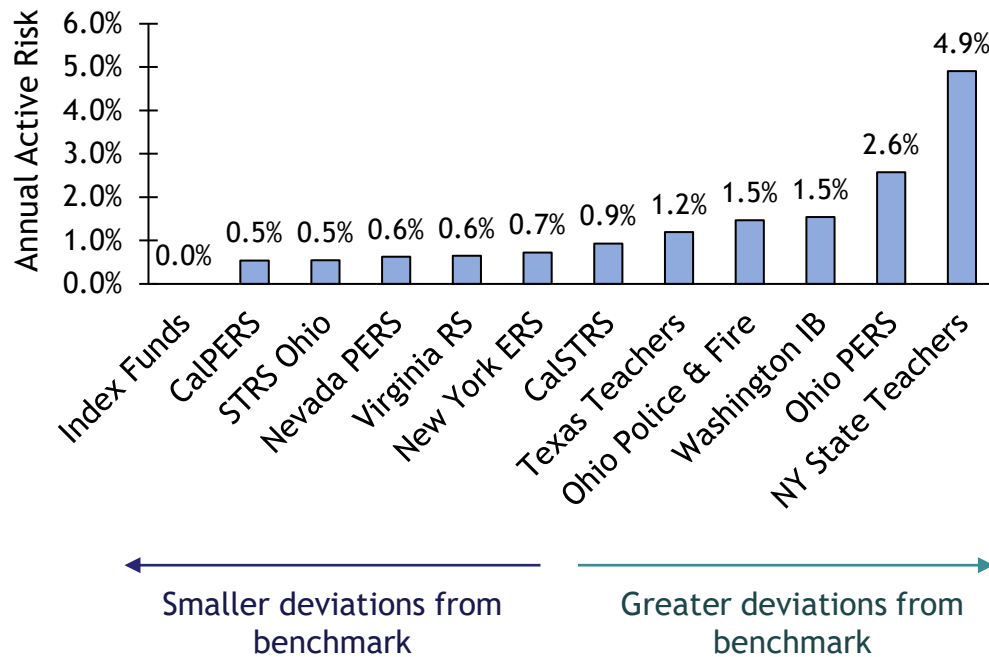
- Comparison across Ohio funds reveals similar rates of adoption



- To quantify active management must also look at the metric of active risk

Notes: Data from RVK's study for ORSC.

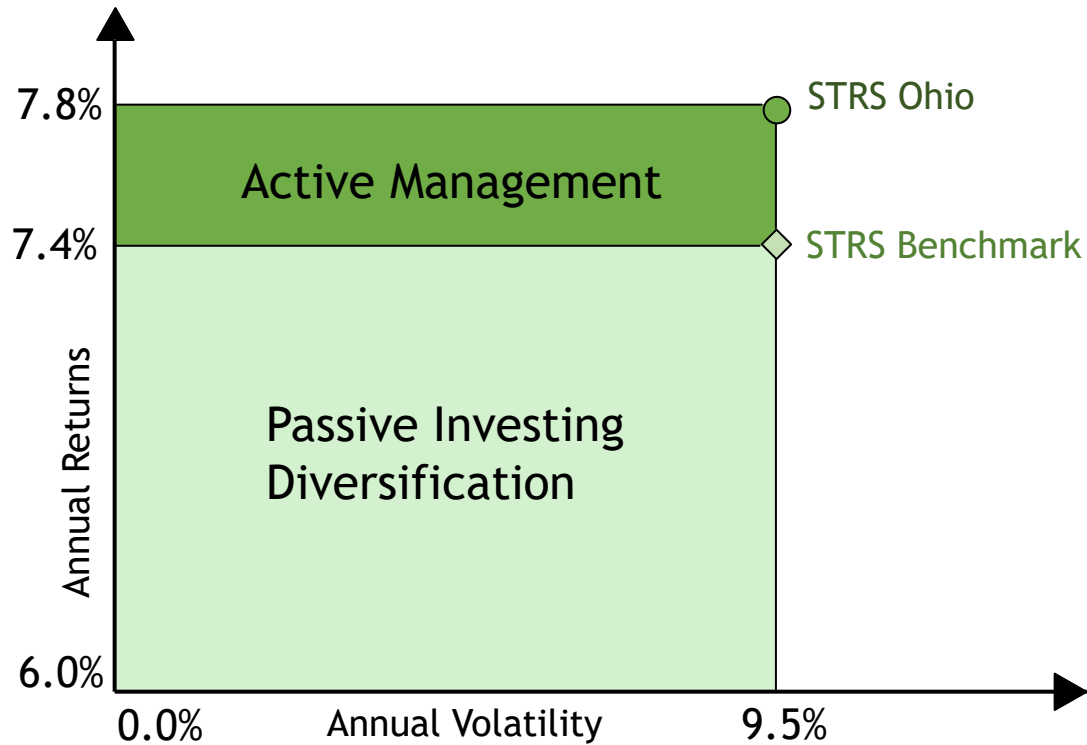
- Active management is measured by the amount of active risk
 - Active Risk = $Volatility(Fund - Benchmark)$
- Data from Boston College Retirement Center (annual data, FY 2012-2021)



Active risk depends on various factors:

1. Tactical asset allocation
2. Assets actively managed
3. Assets internally management
4. Risk taken in actively-managed accounts

Active Management Complements Passive Investing



Active returns are meaningful

- Returns generated by security selection are 0.44% with a t-statistic of 3.19
- Returns excluding alternative investments are 0.40% with a t-statistic of 3.04

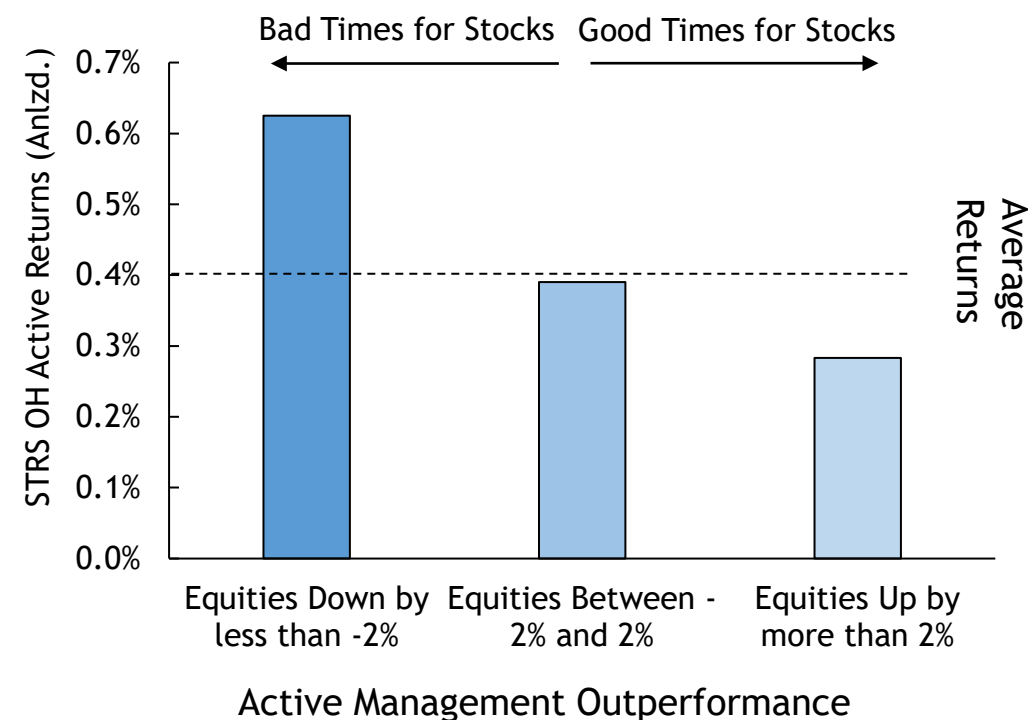
Active returns uncorrelated to capital markets

- No correlation helps explaining 0.0% volatility (risk) contribution
- Investment skills drive active management's returns

Active Management Diversifies in “Good” and “Bad” Times

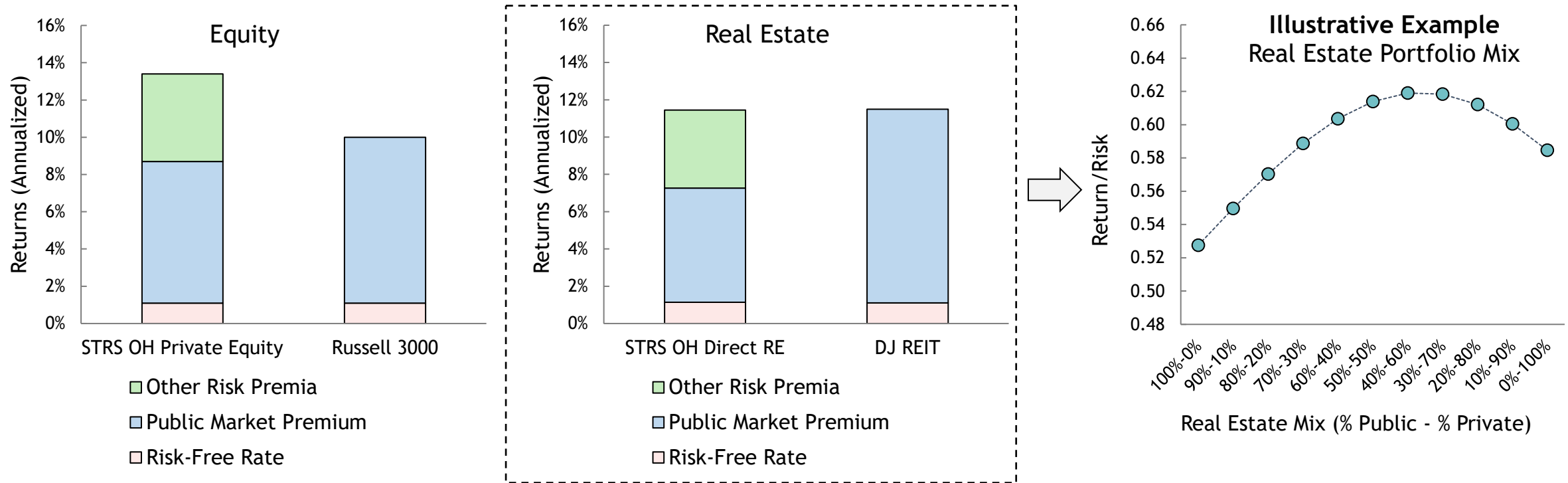


- Kacperczyk et al., 2013, “Time-Varying Fund Manager Skill”, Journal of Finance
 - “Fund managers that pick stocks well in expansions also time the market well in recessions. These fund managers significantly outperform other funds and passive benchmarks.”
- **Test: STRS Ohio performance in good & bad times?**
 - Consider STRS Ohio Active Management performance:
 - STRS Ohio minus STRS Benchmark
 - *Condition* it to U.S. equity monthly returns:
 - Bad times versus good times
- **STRS Ohio performs better in bad times**
 - Countercyclical performance of active management increases the fund’s expected market value



Investments Harvest Risk Premia

- **Model-based return attribution for private markets**



- **Modern portfolio theory:** diversifiers must be part of your portfolio
- Private markets bring diversification (other risk premia) not available in index funds

Notes: Returns are net of transaction costs and all external investment management fees and costs, including carried interest and other fund expenses. The risk premia attribution and the illustrative Real Estate example are based on historical risk estimates (STRS Ohio research).

Recommended List of Investment Beliefs



Belief	Inclusion?	Survey
Diversification improves the total fund	Yes	9/9
Active and passive investing are both appropriate	Yes	9/9
Long-term investment horizon	Yes	8/9
Objective of maximize returns, minimize risks	Yes	8/9
Different risk premia exist	Yes	8/9
Costs matter	Yes	8/9
Manage cash flows and liquidity risks	Yes	8/9
Internal management is a strategic advantage	Yes	6/9
Good governance is critical for success	Yes	4/9
Economies of scale benefit investors	Yes	2/9
Asset allocation main driver of returns and risks	No	4/9
Pursue innovative research	No	3/9
ESG	No	3/9
Leverage is valuable	No	2/9
Climate change	No	2/9
Alignment of interests (fund/advisors)	No	2/9

Notes: Funds in the survey are CALSTRS, CALPERS, Washington State Inv. Board, Virginia Retirement System, NYSTRS, NY State Common Retirement Fund, Wisconsin Investment Board, CPPIB and HOOPP.

Questions?

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