

Pennsylvania Public Pension Management and Asset Investment Review Commission (PPMAIRC)

Summary of Analysis and Recommendations

Third Hearing, October 25th, 2018

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PPMAIRC Third Hearing

Agenda

- The Drivers of Cost Saving Strategies
- The Menu of Options (The Toolkit)
- Governance Considerations
- Risk-Adjusted Performance and Context Considerations
- Cost Saving Recommendations

The Drivers of Cost Saving Strategies

- 1) **Investment Innovation:** Changing the supply and demand of capital by doing things that others are not. But innovation is hard and often against the nature of pension funds.
- 2) **Strategy Simplification:** Complexity generally comes with new costs, which means you can seek to remove complexity to cut fees. Note, however, that this can imply a change in exposures and different risk levels for the fund.
- 3) **Cost Arbitrage:** Looking for similar risk factors in different markets at lower cost or looking for new, cheaper ways to access the same risk factors (e.g., products or assets).
- 4) **Monitoring and Revisiting :** Taking what you have in the portfolio and getting a better deal.

Menu of Cost Saving Options

Investment Innovation

Amongst the best performing funds, innovation is a key ingredient for the adoption of certain cost saving investment strategies.

Innovation starts with understanding the comparative advantages of a fund.

Instead of joining the pack (being subjected to herding behavior), investors can innovate to alter the supply and demand of capital by:

- Seeding new managers
- Entering into new forms of collaboration with peers and partners
- Using different corporate structures, such as platform companies (e.g. REOCs)
- Utilizing new technologies

Menu of Cost Saving Options

Investment Innovation

Seeding new managers:

- Forming new Investment funds (de novo firms) with an exclusive relationship that enables better cost economics for the investor.
- Investors either alone or with other peer investors have launched new firms made up of individuals that have a proven track record in their space.

Illustrative Example – PE portfolio (\$10+ billion) for a Pension Fund:

| | Management Fees | Carried Interest |
|--|-----------------|------------------|
| Seeded Funds (70% of portfolio) | 0.875% | 11.81% |
| Traditional Funds (30% of funds portfolio) | 1.74% | 20% |
| Weighted average funds portfolio | 1.13% | 14.22% |
| Co-investments and Direct Investments (44% of portfolio) | 0% | 0% |
| Weighted average total PE Portfolio | 0.63% | 7.93% |

Menu of Cost Saving Options

Strategy Simplification (Active to Passive, Private to Public)

- It can be challenging to breakdown the amount of complexity associated with the expanding array of financial products and services on offer.
- Complexity does not necessarily bring better returns and there may be risks that are not apparent, or easy to understand.
- Investing in simpler products tends to be a lot less expensive than investing in more complex strategies.
- The most noticeable example of the shift towards cheaper, simpler strategies has been a movement away from active into passive management in public equity

Menu of Cost Saving Options

Strategy Simplification

- Active to Passive
- Private to Public
 - Private – high specific risk, dependency on security selection
 - Public – relatively cheaper to manage and trade, more transparent, more liquid (less cash drag)

Key Considerations:

- Active Risk Exposures
- Increased short-term volatility in public markets
- Time-Horizon
- Liquidity needs of the plan

Menu of Cost Saving Options

Cost Arbitrage - Risk Factor Approach

- The Financial Crisis taught us that financial product and asset class labels are often misleading. Supposedly uncorrelated investments in a portfolio moved in sync, raising fundamental questions about whether diversified portfolios based on asset class categories actually were diversified.
- We have observed a shift in a Total Portfolio Risk Budgeting Approach as opposed to Asset Allocation approach to Investment Strategy. The approach essentially diversifies the portfolio at the level of risk and return streams, rather than at the level of specific asset classes such as real estate or infrastructure.
- Cost Arbitrage occurs by Investing in products with similar risk exposures but at lower cost.
- Expensive active management strategies are being re-developed with technological advancements so that they can be offered in a lower cost product that achieves the same risk-adjusted performance (Smart Beta).

Menu of Cost Saving Options

Cost Arbitrage – Re-intermediation and Internal Management

- As Thomas Philippon shows, the unit cost of financial intermediation is higher today than it was a century ago.
- We use the term re-intermediation to define how investors should re-think the ways in which they use intermediaries to access markets and opportunities. The idea is to change the intermediary make-up to drive more alignment and to reduce the agency costs of investment management. Evergreen funds or platform companies are examples of this re-intermediation.
- You can also completely dis-intermediate, which refers to replacing external managers with an in-house team.
- In-sourcing can be more resource intensive in private markets compared with public markets but cost savings can be greatest.

Menu of Cost Saving Options

Cost Arbitrage – Internal Management

Illustrative Example – Simplified Infrastructure Investment Portfolio (\$10bn):

- Conservative estimate for external manager fees: 1% mgt. fee and 10% carried interest, 10% return (Total: \$200m/year)
- Building an internal team (expensive assumptions using CPPIB as a proxy): Total cost per internal member (including back office) on average \$1m/year – 40 member team

| External Manager | Internal Management |
|----------------------|--------------------------|
| 1% management fee | 40 member team |
| 10% carried interest | Average \$1m/team member |
| 10% return | 10% return |
| \$200m /annum | \$40m /annum |

Menu of Cost Saving Options

Cost Arbitrage – Internal Management

Crucial Considerations:

Comparative Advantages (or lack thereof) of the Fund

Nature (Categorical):

- Do you have scale?
- What is your time horizon (for private market assets) What are your liabilities? Can you take advantage of a long time horizon? Can you pick up a liquidity premium? When do you need the money back? Can you focus on Total Return or Income?
- Are your liabilities pooled or individual?
- Do you have certainty of assets? What is the net cash flow situation? Positive, negative, predictable?
- In a financial crisis, will your assets be called? Or can you be a liquidity provider?

Nurtured (Cultivated):

- Can you attract talent? Are there constraints to Government Pay Scales?
- Can you be a partner with asset managers and other investors as non-competitors for capital?

Menu of Cost Saving Options

Monitoring and Renegotiation

- At times, the easiest and most practical method of reducing costs is to better monitor and renegotiate what is already contained in a portfolio.
- Investment managers deploy resources into improving their negotiating skills with clients.
- Public market negotiations are more immediate than Private markets.
- Private markets are more expensive and therefore could be a source for greater savings.
- Access to information is crucial for a full analysis.

Menu of Cost Saving Options

Monitoring and Renegotiation

- **Key guidelines to save costs:**
- Direct/indirect compensation should be credited back to investor
- Expenses should be borne by manager, brokerage should be ‘unbundled’
- Investors need to establish appropriate benchmarks to evaluate Managers’ performance
- Managers should be incentivized to take appropriate risks by limiting fees through use of tools such as hurdles, caps, high watermarks; and avoiding use of catch-up clauses
- Investors should invest through the vehicles, structures, and share classes that minimize total costs over the lifetime of the investment and it should receive benefits from both the economies of scale and the status that its investment brings
- By consolidating certain SERS and PSERS investments together, there could be significant scale savings from mandates with external managers and also in other areas – operations, benefits etc.

Governance Considerations

- Before embarking on any of these cost-saving pathways, investors need to assess their governance capabilities to determine whether a given investment strategy is commensurate with its organizational capabilities and oversight.
- Central to this is the ongoing tension between having a Board that is representative and one that has financial and investment expertise.
- In particular cost saving pathways that stem from innovation and certain cost arbitrage strategies (internal management, seeding, re-intermediation) require an appropriate ‘Governance Budget’.
- Governance Budget - resources and assets that drive sustainable returns including talent and skills, processes and protocols of decision-making.
- While some cost saving strategies demand greater governance requirements, other strategies do not and in fact certain pathways can ease the governance burden while saving cost.

Governance Considerations

- Our research has shown that one of the most important factors driving the success or failure of an institutional investor over the long run are the procedures used to nominate Board members.
- In the ideal, these procedures should prioritize commercial, financial and entrepreneurial expertise over political or stakeholder affiliations.
- To adopt innovation and certain cost arbitrage strategies, investors need to ensure that their governance budget aligns with the new strategy and risk budget.
- Lower governance budgets are consistent with less complicated or unsophisticated arrangements.

Governance Considerations

- Good governance forms the foundation of the pyramid (and Pre-requisite) for innovating successfully in institutional investor organizations:



Source: Clark and Monk (2012)

Governance Considerations

- This analysis was carried out as preliminary. We were not given access to do a full governance analysis. Our assertions are subject to doing a full governance analysis.
- **PSERS:**
- 15 member “representative” board appropriate for administrative purpose but not as an Investment Board
- Best Practice – 7-9 members for an investment board.
- PSERS is running a complex (innovative) investment strategy – lots of illiquids, use of derivatives, internal management, seeding new managers, looking to open foreign offices.
- PSERS Board does not appear to have the expertise to be able to adequately oversee the current complex strategies employed by the Investment Office.
- Board has an over-reliance on Investment Staff and Consultants – information asymmetry, agency costs.
- Delegation needs to be accompanied by adequate oversight.
- PSERS Board does not appear to have the ability to oversee adequately the Investment Policy Statement implemented by the Investment Staff.

Governance Considerations

- This analysis was carried out as preliminary. We were not given access to do a full governance analysis. Our assertions are subject to doing a full governance analysis.
- **SERS:**
- 11 member “representative” board appropriate for administrative purpose but not as an Investment Board.
- Best Practice – 7-9 members.
- SERS has undergone a governance upheaval following certain events (alleged misconduct by former CIO, staff turnover, departure of long-time chairman).
- *“In order to administer the System and carry out its investment obligations, the Board relies heavily on both staff and external contractors.”* - SERS Statement of Investment Policy.
- Value-add by investment consultants for manager selection has been found to be questionable (Jenkinson et al 2014, 2018, Clark and Monk 2015).
- If the gap in expertise is too large between the Board and investment staff, this could suggest the governance budget is not equipped to take on too much risk.
- As at December 31st 2017, SERS had commitments in over 350 PE funds and over 50 RE funds.
- Extremely large undertaking for Board and staff to accurately monitor and scrutinize the performance of these managers.

Governance Considerations

Investment Boards vs Administrative (Representative) Boards

- It is interesting to note that the US public sector plans that have been able to carry out innovative strategies like internal management successfully, have a separate Investment Board compared with their administrative (representative) Board. E.g. South Dakota, State of Wisconsin, Florida State.
- Investment Boards are appointed based on the finance experience requirement.
- Business-like environment is encouraged by the selection of successful business executives.
- Investment Boards hire and monitor the position of the CIO.
- Investment Boards help to maintain a non-political environment and to focus the fund on long-term performance.

Governance Considerations

- This analysis was carried out as preliminary. We were not given access to do a full governance analysis. Our assertions are subject to doing a full governance analysis.

Summary

- The capacity, resourcing and expertise of the respective Boards of the two PA plans does not seem to be aligned with the complexity of the two plans.
- The Governance budget does not seem to match the risk budget, which means the complexities and risks in the portfolios of the two plans are likely not fully appreciated by the Board. This is problematic.
- Lower Governance Budgets are suited to lower levels of complexity and sophistication.

Risk-Adjusted Performance and Context Considerations

Risk-Adjusted Performance:

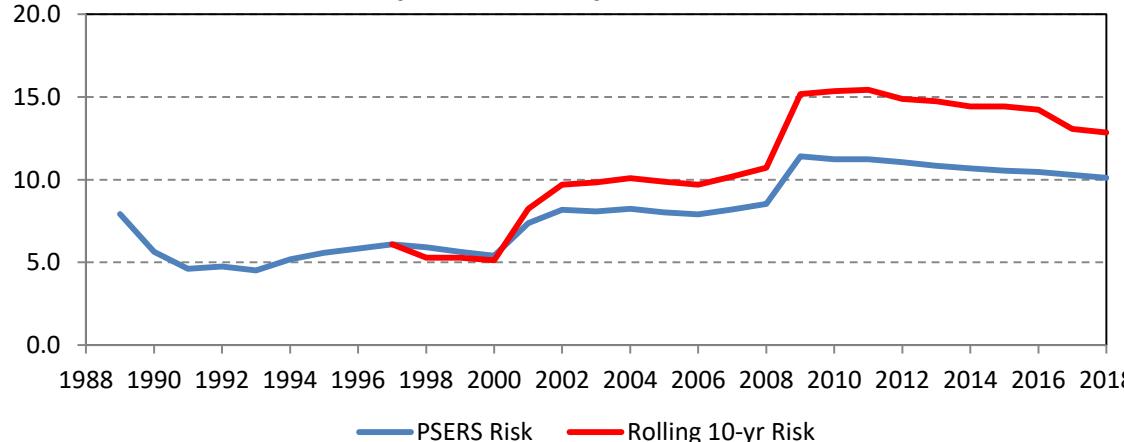
- Risk-adjusted investment performance provides an effective comparison of total and active management performance specific and general to each fund's portfolio.
- Two common performance statistics in the industry are the Sharpe ratio (risk adjusted performance vs. risk free rate) and the Information Ratio (risk-adjusted performance vs. a similar passive benchmark).
- We calculated Sharpe Ratios and Information Ratios for PSERS and SERS from publicly available data, beginning in 1988 (approx. 30 years), adjusted for differing reporting fiscal year-end.
- We constructed multi-asset benchmark portfolios using total return indices for comparison to the pension plan returns and to evaluate information ratios.
- Benchmarks compounded monthly data to provide annual returns consistent with annual plan returns. Global multi-asset benchmarks represent index returns. These do not include management fees which might cost 10-15 bps to manage and administer.
- Available public fund information was limited to published annual returns, but recognize that strategic policies have varied significantly over the last decade. We suggest sufficient sample size requires focus on at least 10 year statistics. Trends of longer horizon data are informative, nonetheless.

Risk-Adjusted Performance and Context Considerations

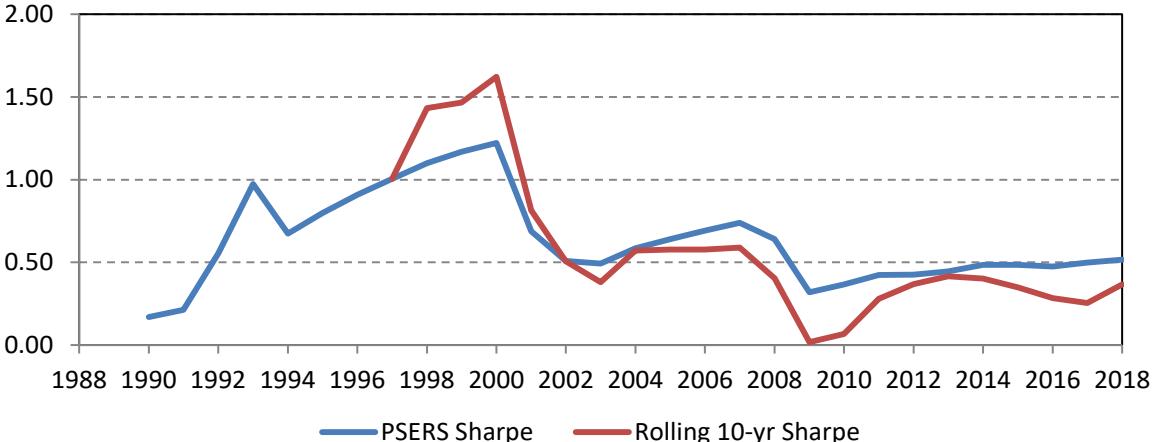
PSERS:

| PSERS | | Balanced Benchmarks | | | | | |
|-------|-----------------------|---------------------|--------------|------------|--------------|-----------|--------|
| | | Retn % | US 60/30/5/5 | Global Bal | PSERS Global | Quasi-LDI | T-Bill |
| | 30yr Return | 8.23% | 8.16% | 7.92% | 7.41% | 7.39% | 3.01% |
| | Risk | 10.11 | 9.51 | 8.97 | 7.93 | 7.07 | 2.60 |
| | Sharpe Ratio | 0.52 | 0.54 | 0.55 | 0.55 | 0.62 | |
| | Information Ratio vs. | | 0.01 | 0.08 | 0.19 | 0.14 | |
| | 10yr Return | 5.03% | 7.76% | 6.88% | 5.78% | 5.90% | 0.31% |
| | Risk | 12.86 | 10.20 | 11.27 | 11.54 | 10.46 | 0.42 |
| | Sharpe Ratio | 0.37 | 0.73 | 0.58 | 0.47 | 0.53 | |
| | Information Ratio vs. | | -0.81 | -0.54 | -0.20 | -0.16 | |
| | 5yr Return | 9.28% | 11.93% | 10.44% | 7.80% | 6.66% | 0.43% |
| | Risk | 5.55 | 4.72 | 6.28 | 5.60 | 5.35 | 0.56 |
| | Sharpe Ratio | 1.59 | | | | | |

PSERS Fund Risk (1988-2018)



PSERS Sharpe Ratio (FY 1988-2018)

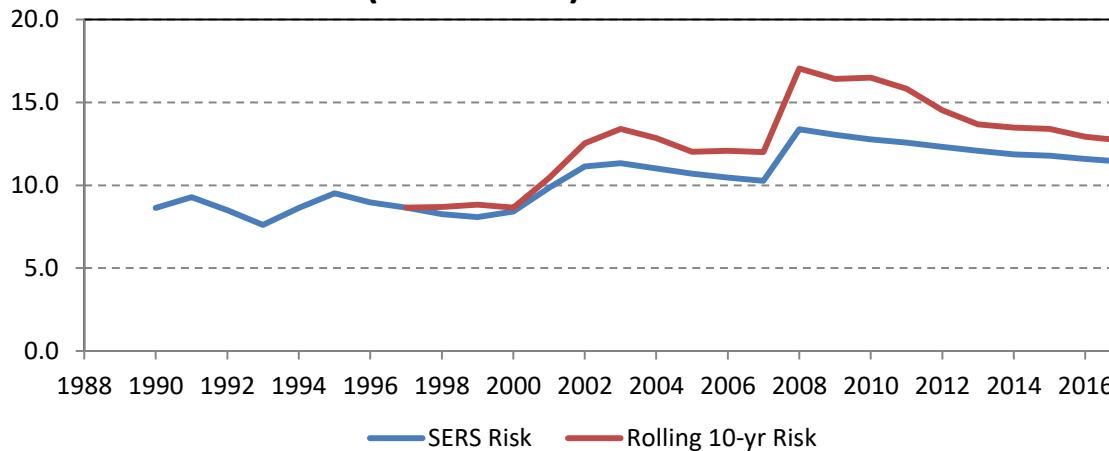


Risk-Adjusted Performance and Context Considerations

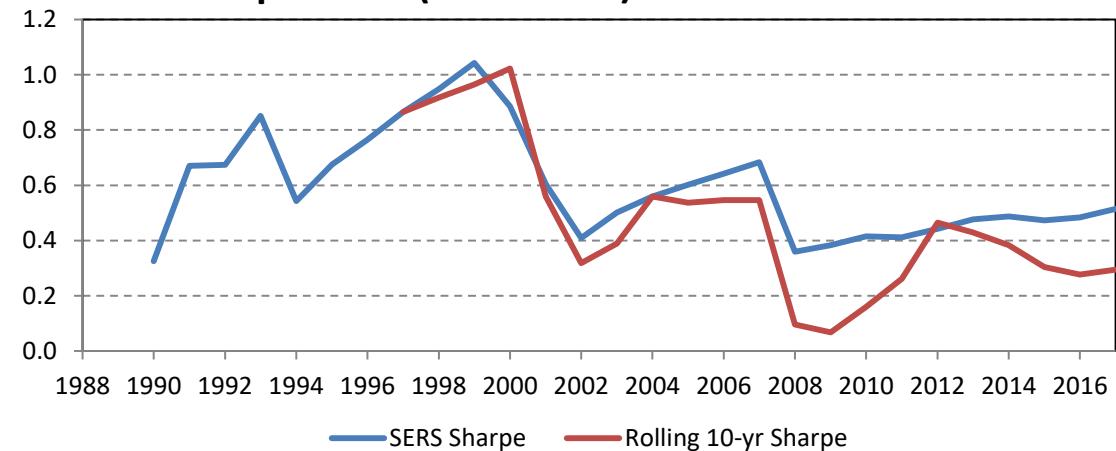
SERS:

| Balanced Benchmarks | | | | | | |
|-----------------------|--------|--------------|------------|-------------|-----------|--------|
| SERS | Retn % | US 60/30/5/5 | Global Bal | SERS Global | Quasi-LDI | T-Bill |
| 30yr Return | 8.98% | 9.38% | 9.33% | 9.32% | 7.89% | 3.09% |
| Risk | 11.44 | 11.12 | 11.83 | 12.02 | 9.01 | 2.56 |
| Sharpe Ratio | 0.51 | 0.57 | 0.53 | 0.52 | 0.53 | |
| Information Ratio vs. | | -0.08 | -0.07 | -0.06 | 0.16 | |
| 10yr Return | 4.06% | 7.08% | 6.56% | 6.46% | 6.01% | 0.33% |
| Risk | 12.72 | 12.19 | 14.23 | 14.54 | 11.11 | 0.49 |
| Sharpe Ratio | 0.29 | 0.55 | 0.44 | 0.42 | 0.51 | |
| Information Ratio vs. | | -0.62 | -0.38 | -0.38 | -0.07 | |
| 5yr Return | 8.27% | 10.75% | 9.46% | 9.40% | 6.48% | 0.26% |
| Risk | 5.99 | 6.72 | 7.34 | 7.56 | 4.96 | 0.36 |
| Sharpe Ratio | 1.34 | | | | | |

SERS Fund Risk (1988-2017)



SERS Sharpe Ratio (1988-2017)



Risk-Adjusted Performance and Context Considerations

Key Takeaways:

- Risk-Adjusted Performance of both plans against very simple US balanced or global balanced allocations of public indices has been poor.
- Overall fund risk of the two plans increased over longer horizons and remains at high levels, despite recent market volatility decreasing across equities, bonds, and currencies.
- Sharpe Ratios for both plans decreased over the 10 and 30 year periods, although 5 year Sharpe Ratio did increase due to significantly lower market volatility.
- Negative 10 year information ratios suggest inferior strategic policy allocation of public funds has underperformed simpler US and global balanced strategies of risk-adjusted public market indices.

Contributing Risk Factors and Areas of Concern to Address:

- PSERS allocations to high cost illiquid asset classes, inefficiency of incorporating commodities, and leverage to fund extended fixed income duration as interest rates climb and Federal Reserve's Government bond holdings are reduced.
- SERS allocation to private equity although allocation to global equity is better placed.

Cost Saving Recommendations

Summary

- Based on our abbreviated analysis, we believe that there are certain cost saving strategies that are not appropriate for the PA plans because they do not appear to have the governance required to adequately monitor them.
- We do not think that increasing internal management is advisable.
- The risk-adjusted performance of the plans would indicate that allocations to illiquid and costly asset classes such as private equity need to be addressed.

Cost Saving Recommendations

In terms of the cost saving options available to the plans:

1. Renegotiation and Monitoring of Current Mandates

- Without changing the asset allocation and risk levels of the current portfolio, renegotiations should take place along best practice guidelines. Our colleague Marcel will provide details for the plans on their current public equity mandates.

2. Strategy Simplification

- A move to simpler strategies such as from Active to Passive and from Private to Public could be considered and investigated further. This may not only reduce costs but help bring the Governance Budget of the plans in line with the level of complexity contained within it. Consideration would need to be given to the active risk associated with these changes as well as the extra short-term volatility that might come with moving to passive indexes for example.

THANK YOU