

Commonwealth of Pennsylvania Public School Employees' Retirement System

DATE: March 11, 2010

SUBJECT: Asset Allocation Recommendation - Asset/Liability Analysis and Investment Review

TO: Members of the Board

FROM: Alan H. Van Noord, CFA
Chief Investment Officer


William G. Bensusan, Jr., CFA
Wilshire Associates

At the upcoming Finance Committee meeting in March, Bill Bensusan, Marlin Pease and Stephen Marshall from Wilshire Associates will review the fourth quarter investment performance and the results of their annual asset/liability analysis. A copy of Wilshire's presentation entitled "Investment Review – For the Period Ending December 31, 2009; Asset/Liability Analysis" dated March 11, 2010 has been included in your Finance Committee materials. This review is the basis for the asset allocation recommendations. The following are the changes recommended to the current asset allocation:

<u>Asset Class</u>	<u>Current Policy</u>	<u>Recommended Policy</u>	<u>Increase/(Decrease)</u>
U.S. Equity	13.50%	0.00%	(13.50%)
Non-U.S. Equity (Unhedged)	18.00%	0.00%	(18.00%)
Global Equity	0.00%	<u>25.60%</u>	<u>25.60%</u>
Total Public Equity	<u>31.50%</u>	<u>25.60%</u>	<u>(5.90%)</u>
Total Private Markets	<u>18.00%</u>	<u>21.00%</u>	<u>3.00%</u>
Public Real Estate	1.50%	0.00%	(1.50%)
Private Real Estate	8.00%	<u>10.50%</u>	<u>2.50%</u>
Total Real Estate	<u>9.50%</u>	<u>10.50%</u>	<u>1.00%</u>
Total Equity	<u>59.00%</u>	<u>57.10%</u>	<u>(1.90%)</u>
U.S. Core Fixed Income	7.50%	5.00%	(2.50%)
TIPS (Leveraged)*	5.00%	5.00%	0.00%
High Yield (Opportunistic)	9.00%	8.00%	(1.00%)
Global Fixed Income	3.00%	2.00%	(1.00%)
Emerging Markets Fixed Income	0.00%	2.90%	2.90%
Cash	5.00%	<u>5.00%</u>	<u>0.00%</u>
Total Fixed Income	<u>29.50%</u>	<u>27.90%</u>	<u>(1.60%)</u>
Absolute Return	<u>7.50%</u>	<u>10.00%</u>	<u>2.50%</u>
Commodities	<u>4.00%</u>	<u>5.00%</u>	<u>1.00%</u>
	<u>100.00%</u>	<u>100.00%</u>	<u>0.00%</u>

* - levered 2:1 in current policy; levered 3:1 in recommended policy

The following are some observations regarding the recommended policy:

1. The recommended allocation is a more efficient allocation than our current policy. While the recommended policy has an expected return that is 19 basis points higher than the current policy (7.71% vs. 7.90%), it is expected to have approximately the same risk.
2. Since the Fund eliminated its equity home country bias a few years ago, we have modeled the allocation using global equity expectations. In Exhibit B of the Investment Policy Statement, Objectives, and Guidelines, we show the breakdown of the U.S. (10.95%) and non-U.S. (14.65%). The overall public equity allocation is recommended to be reduced by 5.90% with 3.0% of the decrease going to Private Markets.
3. Given the expected contributions to and distributions from Private Markets, we increased the policy from 18.0% to 21.0%. The allocation will increase as the capital is put to work through the next year with funding coming from the global equity allocation.
4. Given the expected contributions to and distributions from Private Real Estate, we are recommending an increase of 2.5% to be funded mostly from the elimination of the Publicly Traded Real Estate Securities portfolios. Staff's intention is to retain the contracts of the terminated managers and to re-establish a public real estate allocation in the future once the Fund starts receiving net distributions from Private Real Estate.
5. In fixed income, we recommend that U.S. Core Fixed Income be reduced by 2.5%, high yield and opportunistic be reduced by 1.0%, global fixed income be reduced by 1.0%, and emerging markets fixed income be added at an allocation of 2.9%. Currently, the Fund has approximately 0.75% allocated to emerging markets fixed income. The Fund currently has three Board approved emerging markets fixed income managers with one close to fully funded, a second manager we have just started funding, and a third with which we are finalizing contracts. All of these managers were previously approved by Board.
6. Currently, we are leveraging the TIPS portfolio 2:1. We recommend that the leverage be increased to 3:1. The leverage can be accomplished using primarily total return swaps or repurchase agreements and will be utilized only when the economics of the trade are favorable.
7. We recommend increasing the absolute return program from 7.50% to 10.00%. The absolute return program has attractive risk/return characteristics and is not correlated with the other major traditional asset classes. In addition, we recommend that Brigade Capital Management, currently in the high yield and opportunistic fixed income allocation, be moved to the absolute return allocation since they are primarily functioning as an absolute return manager. With the funding of Brevan Howard and Oppenheimer, approved at the January 2010 Board meeting, we will be at the allocation target.
8. We recommend increasing the allocation to commodities from 4.0% to 5.0% using existing managers.

In addition, Gerry Smith will be exploring new approaches that Staff and Wilshire will be considering. The first is risk parity allocations. Risk parity allocations allow for optimizing portfolio allocations using leverage. The advantage of risk parity allocations is that they are generally more efficient (i.e. they have higher returns for a given level of risk or, conversely, have lower risk for a given level of return). Risk parity allocations have more balance to various risk environments and can be helpful in reducing downside "tail risk" volatility (large losses). The Fund has slowly started moving forward on risk parity allocations by leveraging the TIPS portfolio 3:1. Issues to consider (other than implementation issues) when adopting a full risk parity allocation include headline risk (some consider leverage and derivatives a four letter word) and peer risk (at this point, the Fund would look a lot different than other funds, but that is changing with large funds such as Wisconsin moving in this direction). Wilshire has presented two risk parity allocations in their presentation so the Board can compare them to the recommended policy allocation. Staff and Wilshire believe that this is a reasonable allocation strategy to consider on a going forward basis.

Second, Gerry will touch on Tail Risk Insurance. Given our high allocation to equities (on a risk adjusted basis) which are prone to occasionally have large left tail events (large negative returns, such as the risk events of 2008), staff is working with our strategic partners such as Bridgewater, Brevan Howard, PIMCO, and others, to look for inexpensive ways to purchase insurance to reduce the effects of tail events. We will update the Board as we proceed with the project.

Staff and Wilshire recommend adopting the changes to Exhibits B, C, and D of the Investment Policy Statement, Objectives, and Guidelines that record the changes recommended. Black-lined copies have been included for your review of the changes recommended. Other recommended changes not directly related to the asset allocation changes above include:

1. In Exhibit B, we recommend that the policy ranges are not only represent rebalancing triggers but also tactical allocation constraints;
2. In Exhibit D, we recommend increasing the maximum permitted to be invested in Externally Managed LIBOR-Plus Short-Term Investment Pool managers from 2% to 5%. The low cap was placed so we could evaluate how our external manager, BlackRock, would perform. Since they were hired the first quarter of 2008, they have outperformed their benchmark, net of fees, by 0.82%, and during the past year ended December 31, 2009, by 2.45%; and
3. In Exhibit D, we recommend increasing the maximum that can be invested in Other Absolute Return Strategy managers from 1.0% to 2.0%.

If you have any questions or comments, please contact me at 717-720-4702.