CalPERS

Investment Committee
Agenda Item 5a

May 14, 2018

Item Name: Affiliate Trust Asset Allocation Review: LRS, JRS, JRS II and CERBT

Program: Trust Level Portfolio Management & Affiliate Investment Programs

Item Type: Action

Recommendation
Approve recommended strategic asset allocation for LRS, JRS, JRS II and CERBT.

Executive Summary
CalPERS' Board of Administration (Board) is responsible for the administration and investment of several trust plans independent of the Public Employees' Retirement Fund (PERF).

This item includes the recommendations of the recent strategic asset allocation analysis for the following Affiliate Funds:

- Legislators' Retirement System (LRS) Fund
- Judges' Retirement System (JRS) Fund
- Judges' Retirement System II (JRS II) Fund
- California Employers' Retiree Benefit Trust (CERBT) Fund

The strategic asset allocation process has considered the unique characteristics of each plan and, where appropriate, has incorporated actuarial risk considerations such as the funded ratio, contribution rate and contribution rate volatility. To a significant degree, the recommendations have been guided by an attempt to keep the existing risk profile of each plan where possible.

An overview of the key inputs and analyses for the Affiliate Funds strategic asset allocation review is provided in Attachment 1. An Opinion letter from Wilshire Associates, Inc. follows as Attachment 2.

Strategic Plan
This agenda item supports CalPERS Strategic Plan goal to strengthen the long-term sustainability of the pension fund.

Investment Beliefs
This agenda item is consistent with the following CalPERS Investment Beliefs:

- Investment Belief 1. Liabilities must influence the asset structure. Plan characteristics that project future liabilities are determinants of the recommended Policy Portfolio for each Affiliated Fund.

- Investment Belief 2. A long investment horizon is a responsibility and an advantage. The recommended Policy Portfolio for each Affiliate Fund is based on analyses of long-term demographic trends and projections.

- Investment Belief 7. CalPERS will take risk only where we have a strong belief we will be rewarded for it. Staff tried to maintain its existing risk profile for each Affiliate Fund.

- Investment Belief 9. Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error. Where appropriate, Staff analyzed risk considerations such as funded ratio, contribution rate and volatility of contribution rate.

Background

Periodic review and analysis of strategic asset allocation is required by the Affiliate Funds' respective Statements of Investment Policy. These activities were last conducted in 2014 and they are expected to follow PERF's four-year cycle.

<u>Legislators' Retirement System (LRS) Fund</u>

The LRS Fund was established in 1947 and covers members of the Legislature serving prior to November 7, 1990, and elected Constitutional Officers and Legislative Statutory Officers elected prior to December 31, 2012. The LRS Fund offers a defined benefit plan and provides retirement and ancillary benefits. Effective January 1, 2013, the LRS is closed to new members.

As of the June 30, 2017 actuarial valuation report, the LRS Fund had 247 total participants, of which 8 were active, 7 were inactive and 232 were retired. The LRS Fund had a funded ratio of 115.9% as of June 30, 2017, and an Asset-Under-Management (AUM) of $117 million as of June 30, 2017. The AUM and number of participants have declined respectively from $146 million and 361 since 2000. With an Active-to-Retired Ratio (number of active participants in relation to retired participants) of 0.03 as of June 30, 2017, LRS Fund is very mature. The LRS Fund market net asset value to payroll expenses, known as Asset-to-Payroll Ratio, is 97 as of June 30, 2017, implying that its contribution rates are highly sensitive to investment performance. LRS has annual net cash outflows of approximately $2.6 million that are financed by selling assets.

<u>Judges' Retirement System (JRS) Fund</u>

The JRS Fund, established in 1937, provides retirement benefits to Supreme and Appellate Court justices, Superior Court judges, and Municipal Court judges appointed or elected prior to November 9, 1994. The employer and employee contribution rate for the JRS plan is set by State statute and equals 8% of payroll. The State currently funds the JRS plan using a pay-as-you-go approach. This approach establishes annual contribution levels sufficient to pay current benefits but not to pre-fund future liabilities. Accordingly, the current JRS Fund AUM is not adequate without future contributions to meet current, or expected, benefit payouts.

As of the June 30, 2017 actuarial valuation report, the JRS Fund had 2,061 participants, of which 192 were active, 8 were inactive, and 1,861 were retired. Currently, the JRS Fund has $48 million AUM allocated to cash equivalent securities which serve as a reserve account for the benefit payments in the event of a delay in the annual State budget approval process. The need for a reserve account is derived from the inability of the State Controller's Office to transfer any State General Fund amounts until the State budget is approved. Therefore, an understanding between CalPERS and the Department of Finance is to maintain three months of benefit roll and Extended Service Incentive Program[1] (ESIP) funds in a reserve account to cover cash needs due to budget impasses as well as higher than anticipated ESIP payments.

Judges' Retirement System II (JRS II) Fund

The JRS II Fund provides retirement benefits to all Supreme and Appellate Court justices and Superior Court judges appointed or elected on or after November 9, 1994. The JRS II Fund offers a unique combination of two basic types of retirement benefits: a defined monthly benefit or a payment of monetary credits. The defined benefit provides a lifetime monthly benefit of up to 75% of final compensation. The monetary credits may be paid in a one-time lump sum payment, or in the form of lifetime monthly annuity if the judge is eligible for a defined monthly benefit.

As of the June 30, 2017 actuarial valuation report, the JRS II Fund had 1,673 total participants, of which 1,511 were active, 1 was inactive, and 161 were retired. The JRS II Fund had a funded ratio of 99.3% as of June 30, 2017 and $1.4 billion in AUM as of June 30, 2017. JRS II AUM and the number of participants have grown respectively from $41 million and 367 since 2000. The JRS II Active-to-Retired Ratio, was 9.4 as of June 30, 2017, implying that while it is maturing, JRS II currently would be categorized as a "young" plan. The JRS II Fund has a relatively low Asset-to-Payroll Ratio (4.7 as of June 30, 2017), implying that its contribution rates are less sensitive to volatile investment performance. The JRS II Fund's cash inflow is slowly declining, but remains positive.

California Employers' Retiree Benefit Trust (CERBT) Fund

The CERBT is a State trust fund established by the Public Employees' Medical and Hospital Care Act, Chapter 1, Article 11, Sections 22940-22944.3. It is an Internal Revenue Code (IRC) Section 115 Trust that began operations in 2007. The CERBT allows all IRC Section 115 eligible California public employers to prefund future retiree health and Other Post Employment Benefit (OPEB) costs. As of June 30, 2017, the CERBT Fund had 524 participating public employers, covering 728,570 total participants, of which 461,592 were active and 266,978 were retired.

The CERBT Fund offers three asset allocation strategies (CERBT 1, CERBT 2 and CERBT 3) to accommodate the diversity of program characteristics and risk tolerances of the participating agencies. CERBT 1, with the highest expected return and volatility among the three options, has $5.7 billion AUM as of June 30, 2017. CERBT 2, with a moderate expected return and volatility profile, has $880 million AUM as of June 30, 2017. CERBT 3, with the lowest expected return and volatility profile, has $261 million AUM as of June 30, 2017.

The CERBT Fund's total AUM is $6.8 billion. Over the last year, the CERBT Fund has grown by $1.7 billion in AUM with 31 net new employers and approximately 322,510 new participants. The CERBT Fund's combined annual cash inflows, defined as contributions plus current investment cash income minus disbursements for retiree OPEB payments and expenses, equal approximately $1.1 billion. This positive cash flow is expected to grow to approximately $2.3 billion over the next five years.

[1] ESIP provides an incentive to judges who are eligible to receive the maximum retirement benefit to remain in public service by providing a lump sum payment in addition to their normal retirement allowance.

Analysis

The process to obtain Policy Portfolios for the Affiliate Funds mirrors the one utilized in the PERF Asset Liability Management (ALM) workshop as illustrated on page 13, Attachment 1. As the outcome of step 1 in this process, Capital Market Assumptions (CMAs) have a direct impact on the composition of potential Policy Portfolios. Therefore, CMA's directly affect the risk and return profile of each Affiliate Fund. Where appropriate, CMAs for the Affiliate Funds are adopted from the 2017 PERF ALM process with the following exceptions:

1. Fixed Income and Treasury Inflation-Protected Securities (TIPS) reflect domestic securities only;
2. Global Real Estate Investment Trusts (REITs) are estimated using a Dividend-Discount-model.

Additionally, the asset categories of TIPS, Commodities and REITs have minimum exposure constraints applied in the Mean-Variance Optimization (MVO) process to maintain some degree of exposure to these inflation-sensitive assets despite their somewhat unattractive risk and return profiles. These constraints enforce additional diversification in the final Candidate Portfolio options.

Before reviewing the Candidate Portfolios identified on the efficient frontier generated by the MVO, let us go over to the liability side and recall how plan characteristic will affect the choice of Policy Portfolios.

LRS and JRS II are on the opposite ends of the spectrum of Defined Benefit pension plan characteristics, which leads to distinctive choices for recommended Policy Portfolios. The rationale underlying such distinction includes:

1. A more mature plan whose members are near or already in retirement means that the plan's liability has shorter duration.

2. A plan with net cash outflows are less able to absorb market shocks and needs to manage its liquidity.

3. The contribution rate of a plan with higher Asset-to-Payroll ratio is more sensitive to investment return volatility.

Thus, lower risk may be preferable for such plans and vice versa. The effects of those characteristics applied to LRS and JRS II are summarized in the following table and on page 15, Attachment 1.

Plan Characteristic	Description	Plan Characteristic *(If it is...)*	Implication for Portfolio *(Then ...)*	Affiliate Fund
Fund Maturity	A plan's ability to absorb an investment loss is affected by how distant benefit payments are (members retiring later)	Short Duration	Lower risk may be preferable	LRS
		Long Duration	Higher risk may be acceptable	JRS II
Cash Flows	Cash flows affect a plan's ability to absorb market shocks and need to manage liquidity	Cash Outflows	Lower risk may be preferable	LRS
		Cash Inflows	Higher risk may be acceptable	JRS II
Asset-to-Payroll Ratio	A plan's asset-to-payroll ratio affects the sensitivity of employer contribution rate to investment returns	High Sensitivity	Lower risk may be preferable	LRS
		Low Sensitivity	Higher risk may be acceptable	JRS II

The following table, also shown on page 16, Attachment 1 displays the nine Candidate Portfolios on the efficient frontier generated by the MVO process. Each Candidate Portfolio would earn the highest expected return at the given volatility level.

Asset Allocation of Candidate Portfolios										
Asset Class Component	**P0***	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**
Global Equity	--	19%	22%	28%	35%	40%	46%	52%	59%	68%
Fixed Income	--	41%	49%	54%	48%	43%	37%	32%	25%	16%
TIPS	--	28%	16%	5%	5%	5%	5%	5%	5%	5%
Commodities	--	4%	5%	5%	4%	4%	4%	3%	3%	3%
REITs	--	8%	8%	8%	8%	8%	8%	8%	8%	8%
Liquidity	100%	--	--	--	--	--	--	--	--	--
Expected Compound Return (1-10 yrs.) :	2.00%	4.16%	4.41%	4.75%	5.01%	5.22%	5.43%	5.61%	5.85%	6.10%
Expected Compound Return (11-60 yrs.) :	--	6.43%	6.71%	7.06%	7.30%	7.49%	7.68%	7.85%	8.07%	8.28%
Expected Volatility :	1.00%	6.85%	7.28%	7.93%	8.59%	9.24%	9.98%	10.72%	11.83%	13.12%
Expected Blended Return Net of Fees (1-60 yrs.) : LRS:	--	4.75%	5.00%	5.32%	5.55%	5.75%	5.94%	6.10%	6.32%	6.55%
Expected Blended Return Net of Fees (1-60 yrs.) : JRS II:	--	5.12%	5.38%	5.71%	5.95%	6.14%	6.33%	6.50%	6.72%	6.94%
Expected Time-Weighted Return Net of Fees (1-60 yrs.) : CERBT:	--	5.95%	6.22%	6.57%	6.82%	7.01%	7.20%	7.37%	7.59%	7.82%
Recommendation for plans:	JRS		CERBT 3 LRS			CERBT2		JRS II	CERBT 1	

The calculation of the Expected Blended Return (net of fees) for LRS & JRS II are based on a weighting structure derived from each fund's benefit payment schedule. Thus, different plans have different blended returns for identical potential asset allocations. The Expected Blended Return calculation for the CERBT funds is based on a time weighted structure as the payment schedule is unknown. Each participating employer would calculate its own plan-specific blended return and set its own discount rate based on its own actuarial valuations.

JRS Recommendation

Staff recommends maintaining the current strategic allocation, 100% in cash equivalent securities due to the following considerations:

- The State currently funds JRS through a pay-as-you-go approach. A pay-as-you-go approach establishes contribution levels sufficient to pay current benefit payments only and not to pre-fund future liabilities.

- Assets under management provide liquidity necessary to make benefit payments in the event of a delay in the annual State budget approval process.

LRS Recommendation

A conservative portfolio is recommended for LRS because lower risk may be preferable based on its short duration (mature plan), net cash outflows, and high Asset-to-Payroll ratio. The recommended Policy Portfolio provides inflation protection which is more relevant to a mature plan with net cash outflows and could allow for the current board-approved discount rate to remain unchanged.

JRS II Recommendation

Maintaining a moderately aggressive portfolio is recommended for JRS II because higher risk may be preferable based on its long duration (young plan), net cash inflows, and low Asset-to-Payroll Ratio. Nevertheless, both its Active-to-Retired ratio (indicator of maturity) and net cash inflows are rapidly decreasing, thus, Staff do not recommend increasing the risk profile of this plan.

For JRS II, Staff also examined the following risk considerations:

1. Funded Ratio: Probability of the funded ratio falling below 50% in any of the next 30 years
2. Contribution Level: Probability of the employer contribution rate exceeding 35% in any of the next 30 years
3. Contribution Volatility: Probability of the year-to-year increase in employer contribution rate exceeding 3.0% in any of the next 30 years

As shown on page 16 of attachment 1, the recommended Policy Portfolio also strikes a balance between lowering the contribution level and lowering the volatility of contribution levels. Finally, the recommended Policy Portfolio could also allow the board-approved discount rate to remain unchanged.

CERBT Recommendation

Staff attempts to provide adequate and cost-efficient investment choices to allow employers the ability to select a portfolio that matches their risk preferences and plan characteristics to support participating employer's effort in setting their own contribution rates to pre-fund their liabilities. Therefore, Staff recommends three portfolios (conservative, moderate, aggressive) with similar levels of risk as those selected in the last strategic asset allocation review process in 2014.

Ranges on Asset Classes

Page 19 of Attachment 1 shows the proposed ranges for each asset class. Those ranges are believed to allow an appropriate level of flexibility to minimize the trading costs associated with the quarterly, systematic re-balancing applied to these funds.

Budget and Fiscal Impacts

Not Applicable.

Benefits and Risks

The benefits of approving recommended Policy Portfolio include:

1. Strengthening the long-term sustainability of LRS, and JRS II.
2. Ensure the smooth operation of JRS.
3. Provide adequate and cost-efficient investment alternatives for employers who participate in CERBT to meet their non-pension, post-retirement benefit obligations.

The risks of approving the proposed Policy Portfolio include:

1. The actual realization of future uncertainties deviates significantly from model projections.
2. Other risk factors, not adequately articulated in our model become dominant forces in determining future outcomes.

Attachments

Attachment 1 – Affiliate Trust Asset Allocation Review: LRS, JRS, JRS II and CERBT
Attachment 2 – Opinion Letter from Wilshire Associates

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