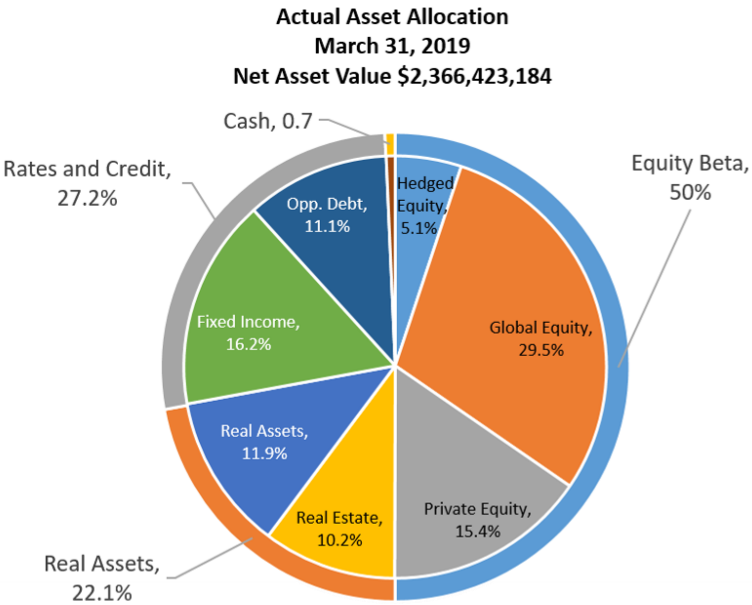
CIO INVESTMENT REPORT

~ by Larry Krummen, CFA ~
Chief Investment Officer
MPERS Board Meeting – June 20, 2019

1st Quarter 2019 Investment Performance Report

NEPC will present MPERS' 1st quarter 2019 investment performance report. A high level summary of the report is provided below.



1-year Return:	6.02%
Benchmark:	5.02%
Excess Return:	1.00%
3-year Return:	8.81%
Benchmark:	8.23%
Excess Return:	0.58%
5-year Return:	7.54%
Benchmark:	6.60%
Excess Return:	0.94%
10-year Return:	10.79%
Benchmark:	9.72%
Excess Return:	1.07%

- The 1st quarter of 2019 witnessed a complete reversal of the 4th quarter 2018, as equity markets rallied 12.2% and erased most of the market losses from the 4th quarter. MPERS' portfolio was up a healthy 4.1% for the quarter, but it was a bittersweet return in that we ranked in the 99th percentile of the public fund peer universe for the quarter given our lower allocation to public equities versus our peers.

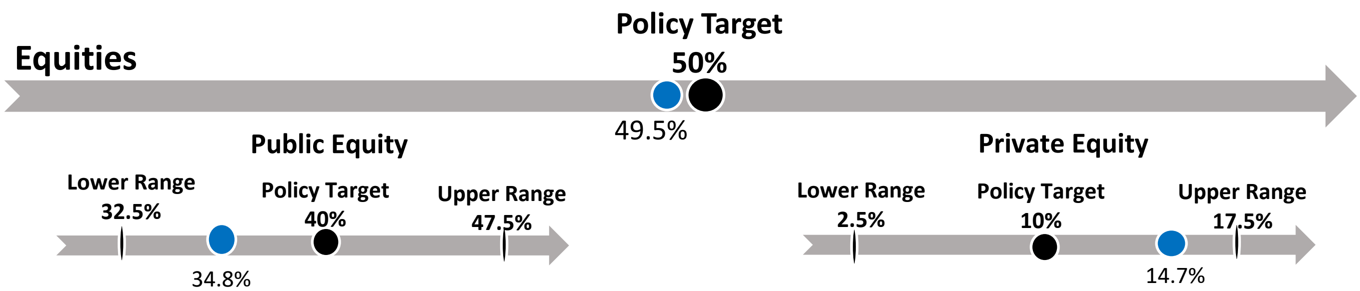
- The prior two quarters highlight the rationale of MPERS' current asset allocation, namely to reduce the volatility of the investment portfolio across market cycles. As equity markets struggled in the 4th quarter of 2018, the median public fund lost 8.0% while MPERS' portfolio lost only 2.8% and was the best performing fund in the peer universe. The reverse was true in the 1st quarter of 2019 when equity markets rallied, as the median public fund gained 8.7% while MPERS only gained 4.1% and was one of the worst performing funds in the peer universe. The market volatility over the past six months is a case study for why you utilize alternative investment structures to diversify investment portfolios. Over this time, the median public fund lost 0.1% in value and experienced a tremendous amount of volatility. Meanwhile, MPERS' portfolio gained 1.1% in value over the same time frame with considerably less volatility in the portfolio. Although it's a short time period, we outperformed the average public fund and took far less risk in the process (as measured by volatility of returns). The same message holds true over longer periods of time, as MPERS' 10 year return ranks in the top 9% of the peer universe while our portfolio risk ranks in the bottom 2% of the peer universe. That combination has produced the single best Sharpe ratio (a measure of risk vs. reward) across the entire peer universe. A lower volatility investment portfolio also produces smoother contribution rates for the employers, which we hope is appreciated in the current budget environment.

- Our focus over the coming months will turn to finalizing fiscal year 2019 performance and completing the annual audit. As of June 12th, MPERS' portfolio is up an estimated 5.0% for the fiscal year.

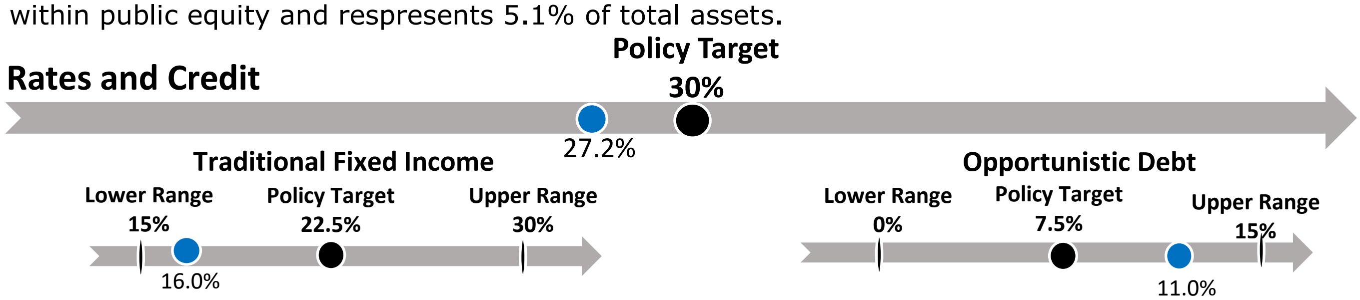
Current Asset Allocation and Positioning Relative to Targets

The asset allocation changes approved in November went into effect January 1, 2019, and includes a new concept which breaks down all investment strategies into three broad beta groups (equities, interest rates and credit, and real assets). We continue to work with Northern Trust and NEPC to incorporate these changes into MPERS' performance and asset allocation reports.

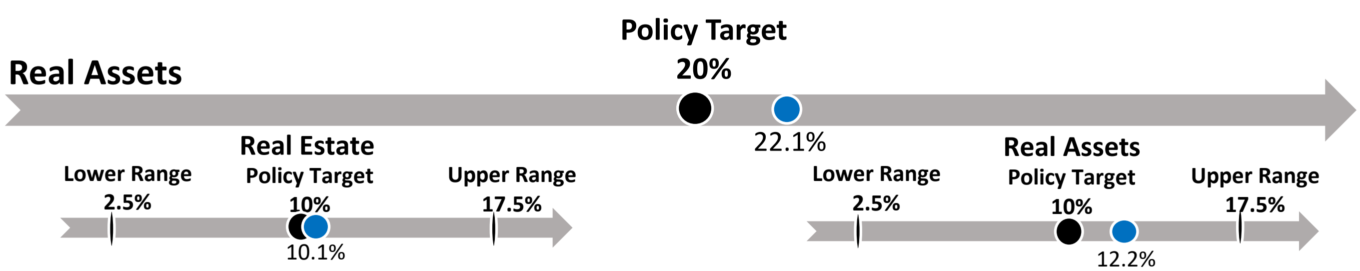
As of June 12, 2019, each of the respective allocations are within the permissible ranges. The current allocation relative to the new policy targets, along with additional comments on the positioning of the portfolio, is provided below. MPERS' current cash balance stands at $31.5 million (or 1.3% of assets).



The underweight to public equities helped the portfolio during 4th quarter of 2018 but hurt relative performance in the 1st quarter of 2019. Given the recent market rally, we continue to maintain a defensive stance with the equity portfolio as we enter the late cycle of the economic recovery. The underweight to public equity is offset by the overweight to private equity, which we expect will remain intact for several years as we gradually move towards the new target of 10%. Hedged equity falls within public equity and respresents 5.1% of total assets.



Interest rates continue to drop as the Federal Reserve has pivoted to a neutral to dovish (potentially rate cutting) stance on future Federal Funds Rate movements. The lower yields has further reduced the attractiveness of the traditional fixed income sector relative to more growth-oriented strategies, as the 10-year Treasury is now yielding 2.1%. Generating a 7% return while investing any capital in that yield environment is a very difficult task. We continue to favor more growth oriented strategies especially given the strength of the U.S. economy.



MPERS' energy-related investments had a difficult quarter, as managers lowered their year-end valuations after the 30% drop in oil prices in the 4th quarter of 2018. With energy prices stabilizing thus far in calendar year 2019, we expect to see some recovery in those strategies over the coming months. Real estate continues to perform well, and we have a pending sale within the timber allocation that would be incremental to performance if/when that closes.