

# Asset-Liability Study Overview

State of Michigan (MPSERS)  
June 2020

Investment advice and consulting services provided by Aon Investments USA Inc.

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# Asset-Liability Study Overview

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## 1 What?

- An asset-liability study is a comprehensive toolkit for making decisions on a fund's asset allocation and investment risk that align with the liabilities those funds support.

## 2 Why?

- Aon believes optimal decisions regarding pension/OPEB plan management are made when they are based on a clear understanding of the assets and liabilities of the plan(s) and how they interact. From this study, we can better ascertain the risk preferences of the investment program to best achieve the plan goals.

## 3 When?

- For a formal review of the asset-liability modeling, Aon suggests conducting asset-liability studies every three to five years depending on client specifics, or more frequently should circumstances dictate (e.g., material changes to the liability profile, etc.).

## 4 How?

- Identify future trends in the financial health of the fund (e.g., funded ratio, contributions, etc.) based on economic uncertainties that may not be evident from an actuarial valuation, which provides only a snapshot at a point in time.

# Key Themes

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- The MPSERS plan is currently underfunded ( $\approx 60\%$  as of 9/30/2018<sup>1</sup>) which suggests a growth-oriented portfolio is reasonable
- The funding gap will be filled by a combination of 1) plan contributions and 2) investment returns
  - Contribution policy will take the plan to a full funded state regardless of the investment strategy modeled due to the unique characteristics of the policy
- MPSERS' mix of return-seeking asset classes aligns reasonably well with our best thinking for portfolio construction
  - Reducing exposure to equity risk and adding exposure to diversifying asset categories (E.g., Absolute Return, Real Return & Opportunistic) would improve the efficiency of the MPSERS portfolio, at least at the margin, based on our capital market assumptions
- The key question addressed by our A/L Study is should MPSERS have less, more, or the same amount of its portfolio invested in return-seeking assets
- When looking at varying the allocation to return-seeking assets, we'll find that:
  - Higher risk strategies will be assumed to have less contributions but with more volatility
  - Lower risk strategies will be assumed to have higher contributions but with less volatility
- The ideal investment strategy for MPSERS should consider the desired balance between funding, investment returns, and risk tolerance

<sup>1</sup> September 30, 2018 represents the starting point of our analysis as it is the most recent actuarial liability detail available; for our projections, we have overlaid actual return experience through March 31, 2020 to allow our analysis to be as up-to-date as possible

# Portfolio Analysis

## Current Target Asset Allocation

- The Current Target Asset Allocation is modeled to our capital market assumptions as follows:

Target Asset Allocation as of 12/31/2019		
	Alloc %	Capital Market Assumption Mapping
<b>Return-Seeking</b>		
- U.S. Equity	28.0%	90% U.S. Large Cap / 10% U.S. Small Cap
- International Equity	16.0%	75% International Developed / 25% Emerging Markets
- Private Equity	18.0%	Private Equity
- Real Estate & Infrastructure	10.0%	8.5% Real Estate (20% Core Real Estate / 80% Non-Core Real Estate) / 1.5% Infrastructure
- Absolute Return	6.0%	Broad Hedge Funds (Universe)
- Real Return / Opportunistic	9.5%	50% Private Equity / 50% Multi-Asset Credit
- Total	87.5%	
<b>Risk-Reducing</b>		
- Cash & Short Term Fixed Income	2.0%	Cash
- Long Term Fixed Income	10.5%	Core Fixed Income
- Total	12.5%	
<b>Total</b>	<b>100.0%</b>	

## Spectrum of Aon Model Portfolios

- Aon's Model Portfolios reflect Aon's best ideas for a *typical* U.S. public defined benefit plan across a range of circumstances noted below
  - Intended as a *starting point* for asset allocation analysis and decision-making and to be customized based on client-specific needs and circumstances

	Efficiency	Model 1	Model 2	Model 3 (Opportunity)
Complexity	Simple			Complex
Costs	Low Cost			Higher Cost
Resources	Light Resources			Deep Resources
Governance	Modest Governance			Strong Governance
Liquidity	More Liquid			Less Liquid

- As a general statement, moving from left-to-right on the above spectrum increases both investment portfolio return potential and risk-adjusted return potential, based on our capital markets modelling

# Aon Model Portfolios vs. Current MPSERS Policy

Asset Class	Current Policy (87.5% R-S)	Efficiency (87.5% R-S)	Model 1 (87.5% R-S)	Model 2 (87.5% R-S)	Model 3 (87.5% R-S)
<b>Equity</b>					
- U.S. Equity	28%	0%	0%	0%	0%
- International Equity	16%	0%	0%	0%	0%
- Global Equity	0%	66%	55%	49%	38%
- Private Equity	23% <sup>2</sup>	0%	5%	11%	16%
- Subtotal	67%	66%	60%	60%	55%
<b>Absolute Return / Liquid Alternatives</b>					
- Subtotal	6%	0%	11%	11%	11%
<b>Return-Seeking Fixed Income</b>					
- Multi-Asset Credit	5% <sup>2</sup>	9%	5%	5%	5%
- Subtotal	5%	9%	5%	5%	5%
<b>Real Assets</b>					
- Real Estate (Core)	2%	13%	8%	5%	5%
- Real Estate (Non-Core)	7%	0%	3%	3%	5%
- Infrastructure	2%	0%	0%	3%	5%
- Subtotal	10%	13%	11%	11%	16%
<b>Risk-Reducing</b>					
- Cash	2%	2%	2%	2%	2%
- Core Fixed Income	11%	11%	11%	11%	11%
- Subtotal	13%	13%	13%	13%	13%
<b>Expected Return<sup>1</sup></b>	<b>7.56%</b>	<b>6.74%</b>	<b>6.81%</b>	<b>7.07%</b>	<b>7.33%</b>
Expected Risk <sup>1</sup>	13.83%	13.24%	12.73%	12.74%	12.48%
Sharpe Ratio	0.47	0.43	0.45	0.47	0.50

## Notes:

<sup>1</sup> Expected returns based on Aon Investments Q2 2020 30 year Capital Market Assumptions assuming the detailed portfolios found in the Appendix. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees.

Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Appendix for the Capital Market Assumptions.

<sup>2</sup> For modeling purposes, Michigan's 9.5% allocation to Real Return & Opportunistic assets is split 50/50 between Private Equity and Multi-Asset Credit

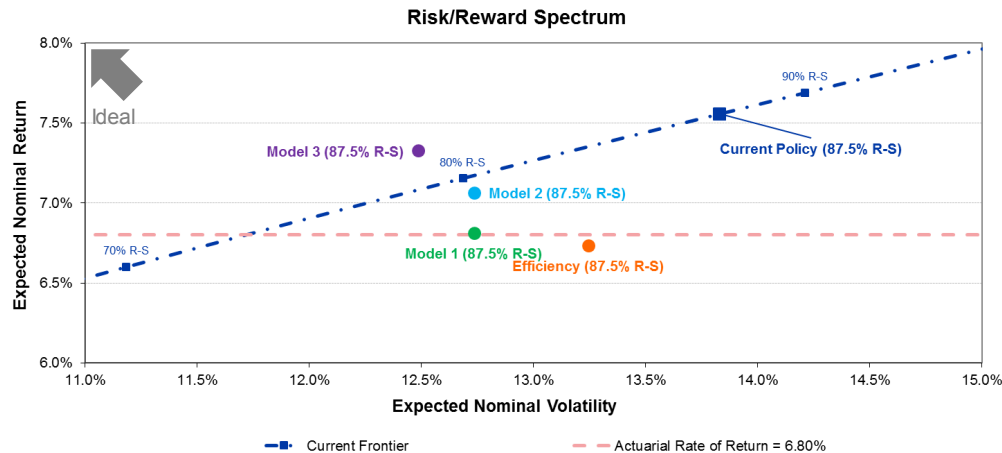
Percentages in table may not sum to 100% due to rounding

## Key Takeaways:

- Current MPSERS Policy generally compares favorably to the Aon Model Portfolios
- Current MPSERS Policy's total equity exposure appears higher than Aon Model Portfolios, particularly Model 3
  - This also appears true relative to large public fund peers (please see Appendix)
- Current MPSERS Policy's higher exposure to equity risk results in higher forecasted total portfolio volatility
  - Explains Current Policy's Sharpe Ratio < Model 3

# Portfolio Analysis

## Risk/Reward Spectrum



	Expected Nominal Return <sup>1</sup>	Expected Nominal Volatility	Sharpe Ratio
Current Policy (87.5% R-S)	7.56%	13.83%	0.47
Efficiency (87.5% R-S)	6.74%	13.24%	0.43
Model 1 (87.5% R-S)	6.81%	12.73%	0.45
Model 2 (87.5% R-S)	7.07%	12.74%	0.47
Model 3 (87.5% R-S)	7.33%	12.48%	0.50

- **Blue Square:** “Current Policy” = Michigan’s current mix of Return-Seeking assets (87.5%) and Risk-Reducing assets (12.5%)
  - **Blue Line** “Current Frontier” = Michigan’s Current Policy, scaled to different risk levels
    - ❖ I.e., Risk-Reducing assets (FI and cash) and Return-Seeking assets (all other assets) scaled up and down, proportionally
- **Circles (Orange, Green, Light Blue, Purple)** = “Aon Model Portfolios”
  - I.e., Aon’s starting point for Asset Allocation discussions with public fund clients
    - ❖ “Efficiency” is designed for public pensions that prefer to access the markets in a simple, low cost manner
    - ❖ “Model 3” is designed for public pensions with deep internal resources and a high tolerance for complexity and illiquidity

### Key Takeaways:

- Current Policy has a higher long-term return forecast than any Aon Model Portfolio
- Current Frontier is more efficient than three of the four Aon Model Portfolios
- Current Policy models as more volatile (i.e., has a higher standard deviation of forecasted investment returns) than the Aon Model portfolios

<sup>1</sup>Expected returns are using Aon Investments Q2 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Appendix for capital market assumptions disclosure pages.

# Varying the Return-Seeking (R-S) Allocation

## Expected Return Distributions

R-S%	30Y Expected Return	30Y Nominal Volatility	Sharpe Ratio	1Y Return (2 STD Down)
70.0%	6.60%	11.18%	0.49	-13.43%
72.5%	6.74%	11.55%	0.49	-13.88%
75.0%	6.88%	11.93%	0.48	-14.33%
77.5%	7.02%	12.31%	0.48	-14.78%
80.0%	7.15%	12.68%	0.48	-15.23%
82.5%	7.29%	13.06%	0.47	-15.68%
85.0%	7.42%	13.44%	0.47	-16.12%
87.5%	7.56%	13.83%	0.47	-16.57%
90.0%	7.69%	14.21%	0.46	-17.01%

## Contribution Impact

(Max as a Multiple of FYE 2019 Total Contribution Dollars)

R-S%	50 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	99 <sup>th</sup> Percentile
70.0%	2.3	6.2	7.3
72.5%	2.1	6.2	7.3
75.0%	1.9	6.2	7.4
77.5%	1.9	6.2	7.4
80.0%	1.8	6.3	7.5
82.5%	1.8	6.3	7.6
85.0%	1.8	6.3	7.7
87.5%	1.7	6.4	7.8
90.0%	1.7	6.4	7.8

### Key Takeaways:

- All else equal, we believe MPSERS would benefit from reducing its investment risk posture, at least at the margin
  - Decreased return-seeking allocations are projected to result in:
    - ❖ Lower expected returns, nominal volatility, and downside (95th or 99th percentile) contribution amounts (presented above as a multiple of FYE 2019 amounts)
    - ❖ Higher Sharpe Ratio (i.e., more efficiency), one year downside return, and expected (50th percentile) contribution amounts



# Maintain the Existing the Return-Seeking (R-S) Allocation

## Alternative Policy for Consideration

Asset Class	Current Policy (87.5% R-S)	Alternative Policy (87.5% R-S)	Difference	Current Rebalancing Ranges	Alternative Rebalancing Ranges
<b>Equity</b>					
- U.S. Equity	28.0%	25.0%	(3.0%)	20% - 35%	17% - 32%
- International Equity	16.0%	15.0%	(1.0%)	15% - 25%	12% - 22%
- Private Equity	18.0%	16.0%	(2.0%)	10% - 20%	13% - 25%
- Subtotal	62.0%	56.0%	(6.0%)		
<b>Absolute Return / Liquid Alternatives</b>					
- Subtotal	6.0%	9.0%	+3.0%	3% - 9%	5% - 11%
<b>Real Return / Opportunistic</b>					
- Subtotal	9.5%	12.5%	+3.0%	5% - 15%	8% - 18%
<b>Real Estate &amp; Infrastructure</b>					
- Subtotal	10.0%	10.0%	--	5% - 15%	8% - 18%
<b>Risk-Reducing</b>					
- Short-Term Fixed Income (Cash)	2.0%	2.0%	--	1% - 6%	1% - 8%
- Long-Term Fixed Income (Core Fixed Income)	10.5%	10.5%	--	10% - 20%	8% - 18%
- Subtotal	12.5%	12.5%	--		
<b>Expected Return<sup>1</sup></b>	<b>7.56%</b>	<b>7.46%</b>	<b>(0.10%)</b>		
Expected Risk <sup>1</sup>	13.83%	13.34%	(0.49%)		
Sharpe Ratio	0.47	0.48	+0.01		

- Above we model an alternative policy allocation (same R-S level as the Current Policy) that reduces equity exposure and adds exposure to diversifying asset categories
  - Modest reduction in forecasted return, more meaningful reduction in forecasted volatility
  - Improved portfolio efficiency (i.e., higher Sharpe Ratio)

<sup>1</sup> Expected returns based on Aon Investments Q2 2020 30 year Capital Market Assumptions assuming the detailed portfolios found in the Appendix. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Appendix for the Capital Market Assumptions.

# Maintain the Existing the Return-Seeking (R-S) Allocation

## Alternative Policy for Consideration (Cont'd)

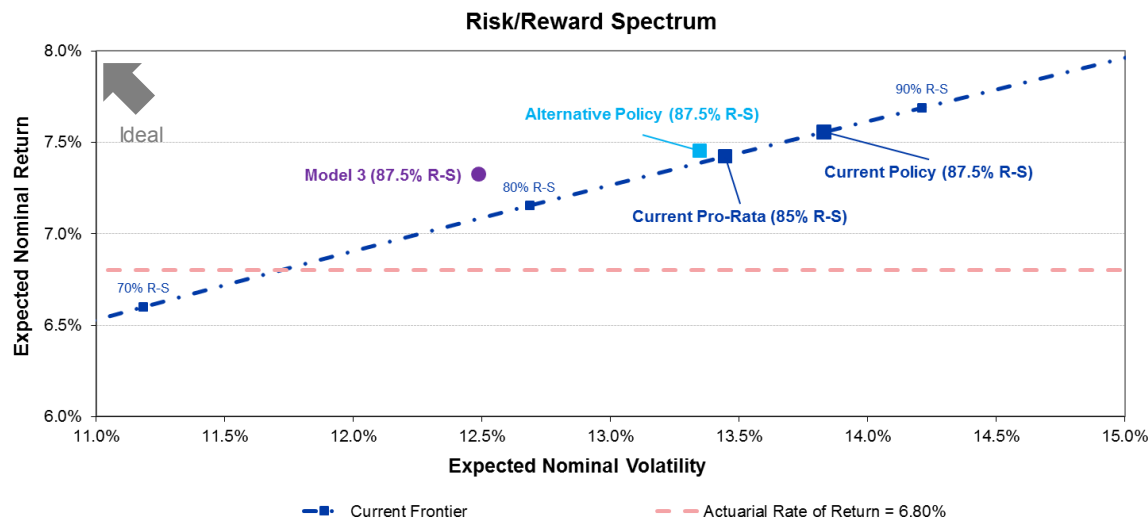
### Expected Return Distributions

Asset Allocation	30Y Expected Return	30Y Nominal Volatility	Sharpe Ratio	1Y Return (2 STD Down)
Current Policy 87.5% R-S	7.56%	13.83%	0.47	-16.57%
Alternative Policy 87.5% R-S	7.46%	13.34%	0.48	-15.94%

### Contribution Impact

(Max as a Multiple of FYE 2019 Total Contribution Dollars)

Asset Allocation	50 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	99 <sup>th</sup> Percentile
Current Policy 87.5% R-S	1.7	6.4	7.8
Alternative Policy 87.5% R-S	1.8	6.3	7.6



### Key Takeaways:

- The alternative policy is projected to result in:
  - Lower expected returns, nominal volatility, one year downside return, and downside (95<sup>th</sup> or 99<sup>th</sup> percentile) contribution amounts (as a multiple of FYE 2019 amounts)
  - Higher Sharpe Ratio (i.e., more efficiency) and expected (50<sup>th</sup> percentile) contribution amounts
- The alternative policy offers a superior risk reward tradeoff vs. moving down the Current Frontier
  - E.g., Current Pro-Rata (85% R-S)

# Comparison of Pension / OPEB Plans

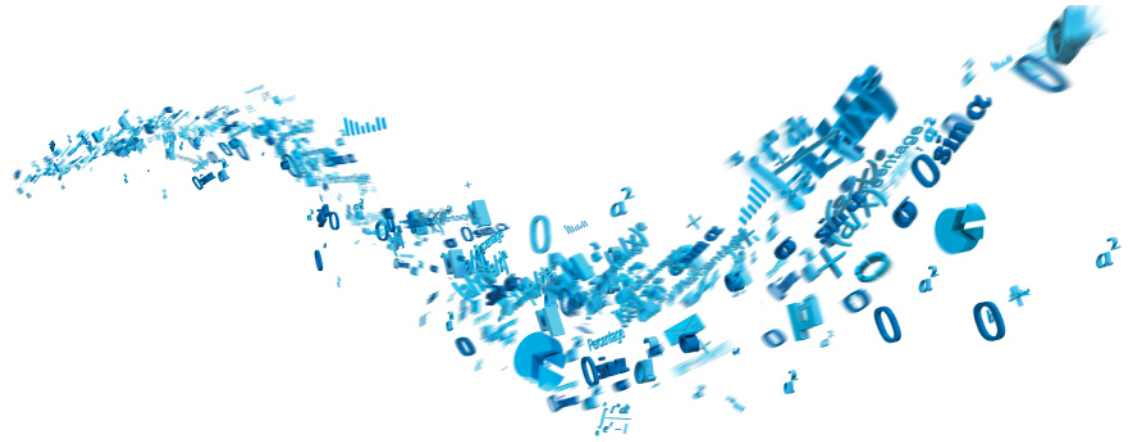
- As of the most recent actuarial valuation reports (September 30, 2018), below is a high level comparison of the State of Michigan's pension / OPEB plans:

(In \$ millions)

Pension	Discount Rate	Market Value of Assets	Actuarial Liability	Funded Ratio	Liability Growth Rate	Asset Hurdle Rate
- Michigan Public Schools Employees' Retirement System	6.80%	\$50,343.5	\$83,375.3	60.38%	7.81%	12.93%
- Michigan State Employees' Retirement System	6.70%	\$12,398.0	\$18,995.2	65.27%	6.97%	10.68%
- Michigan State Police Retirement System	6.80%	\$1,492.4	\$2,271.1	65.71%	7.96%	12.11%
- Michigan Judges' Retirement System	6.25%	\$271.1	\$280.9	96.51%	7.27%	7.54%
- Military Retirement Provisions	6.75%	\$17.2	\$56.8	30.30%	7.90%	26.08%
- Total Pension		\$64,522.2	\$104,979.4	61.46%	7.66%	12.46%
<b>OPEB</b>						
- Michigan Public Schools Employees' Retiree Health Benefits	6.95%	\$6,111.2	\$13,748.9	44.45%	7.35%	16.53%
- Michigan State Employees' Retiree Health Benefits	6.90%	\$2,562.8	\$10,630.3	24.11%	7.89%	32.72%
- Michigan State Police Retiree Health Benefits	6.90%	\$191.0	\$777.3	24.57%	8.13%	33.08%
- Michigan Judges' Retiree Health Benefits	7.00%	\$1.1	\$8.4	12.52%	9.82%	78.44%
- Total OPEB		\$8,866.1	\$25,164.9	35.23%	7.60%	21.57%

## Key Takeaway:

- While the focus of our analysis is on the MPSERS Non-Hybrid plan, the characteristics of MPSERS (i.e., funded ratio, liability growth rate, asset hurdle rate) are similar to those of all of Michigan's benefit plans, suggesting that an asset allocation policy appropriate for MPSERS would be appropriate for them as well

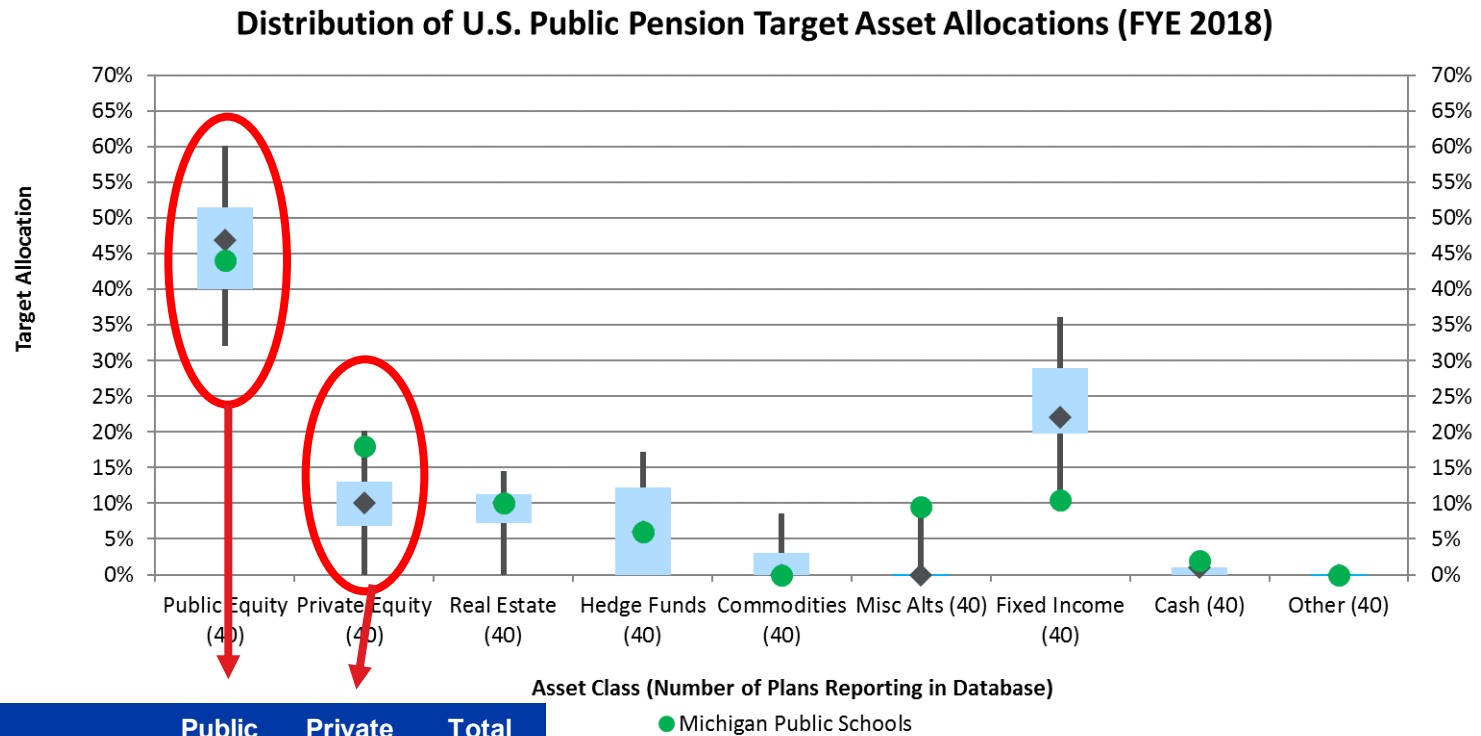


# Appendix

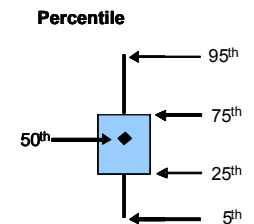
- Assumptions and Methods

# Peer Benchmarking

## Distribution of U.S. Public Pension Target Asset Allocations (Assets > \$25B)<sup>1</sup>



	Public Equity	Private Equity	Total Equity
MPSERS	44%	18%	62%
Public Peers	47%	10%	57%
Difference	(3%)	+8%	+5%



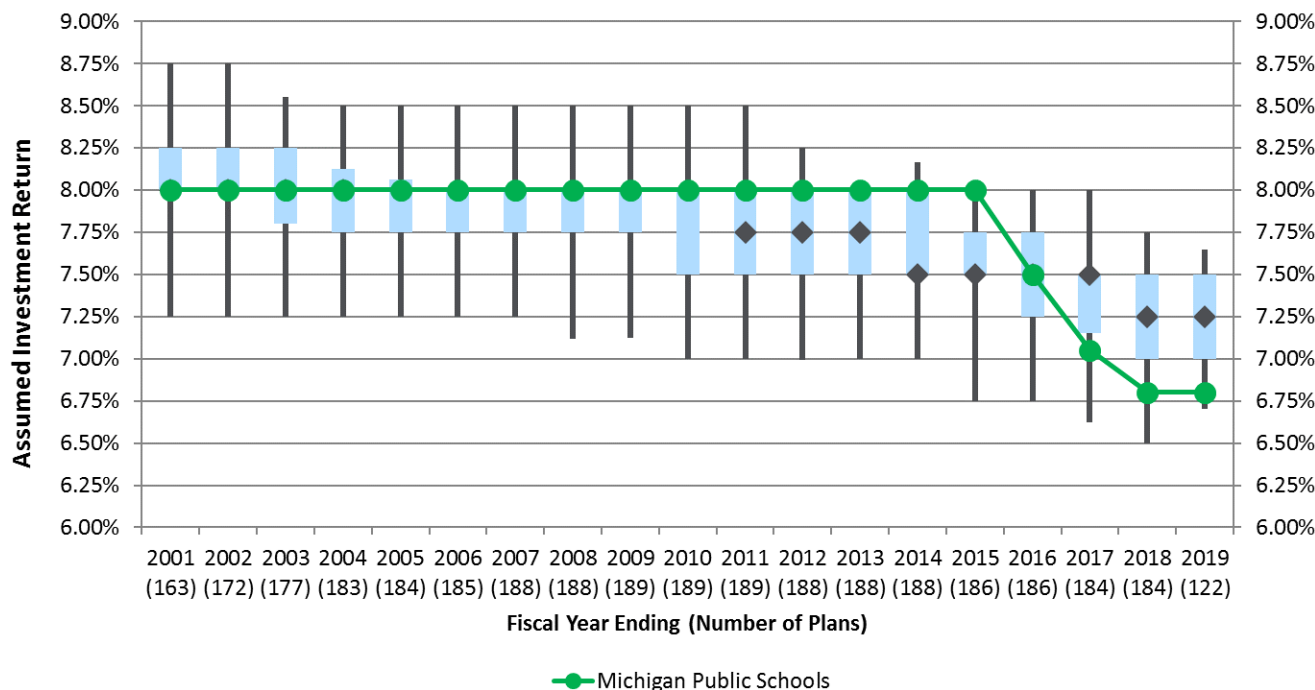
Source: Public Plans Data (publicplansdata.org) as of April 2020

<sup>1</sup> Plans defined as public funds published within publicplansdata.org as of April 2020; Number of plans per year are shown in parentheses

# Portfolio Analysis

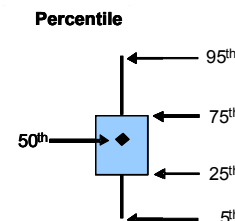
## Expected Return Assumption versus Peers<sup>1</sup>

**Distribution of U.S. Public Pension Investment Return Assumptions**



### Key Takeaways:

- The public pension peer median actuarial assumption for investment return has declined from 8.00% in 2001-2010 to 7.25% based on the latest survey data
- MPSERS' assumption for FYE 2019 (6.80%) lied between the 5<sup>th</sup> and 25<sup>th</sup> percentile relative to its peers
- If MPSERS exceeds (or falls short of) the actuarial return assumption, lower (or higher) funding will be needed in future years

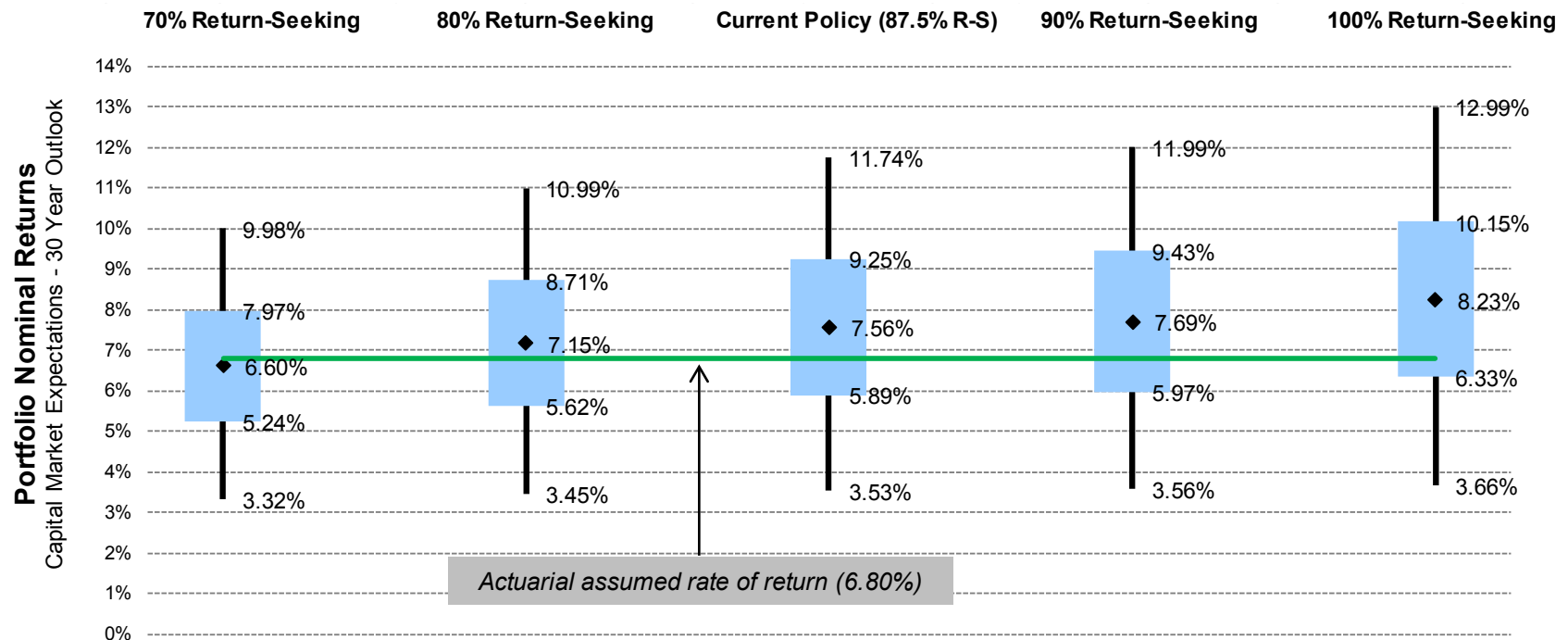


Sources: Public Plans Data (publicplansdata.org) as of April 2020; Expected Returns are the assumptions made by the plans included in the data set.

<sup>1</sup> Peers defined as public funds published within publicplansdata.org as of April 2020; Number of plans per year are shown in parentheses

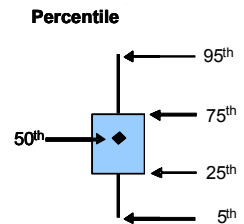
# Portfolio Analysis

## Range of Nominal Returns



### Key Takeaway:

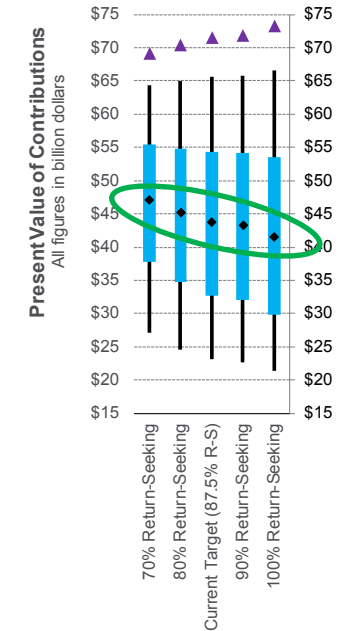
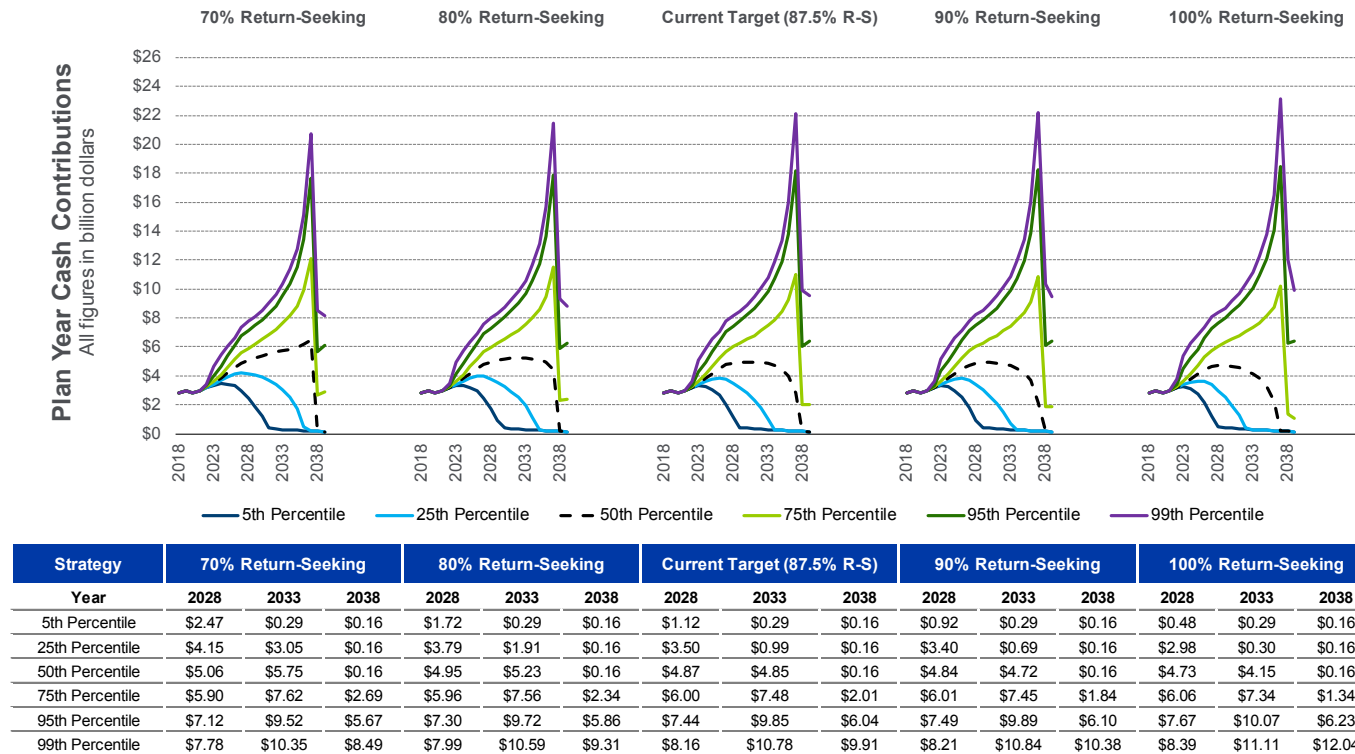
- Median expected returns for policies greater than 70% return-seeking assets are projected to exceed the actuarial assumed rate of return (6.80%)



<sup>1</sup>Expected returns are using Aon Investments Q2 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Appendix for capital market assumptions disclosure pages.

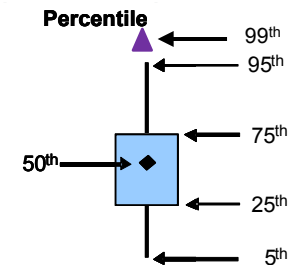
# Asset-Liability Projection Results

## Total Contribution Amount



### Key Takeaway:

- The higher the allocation to return-seeking assets, the lower the present value of future contributions will be on average but the greater the variability in contributions

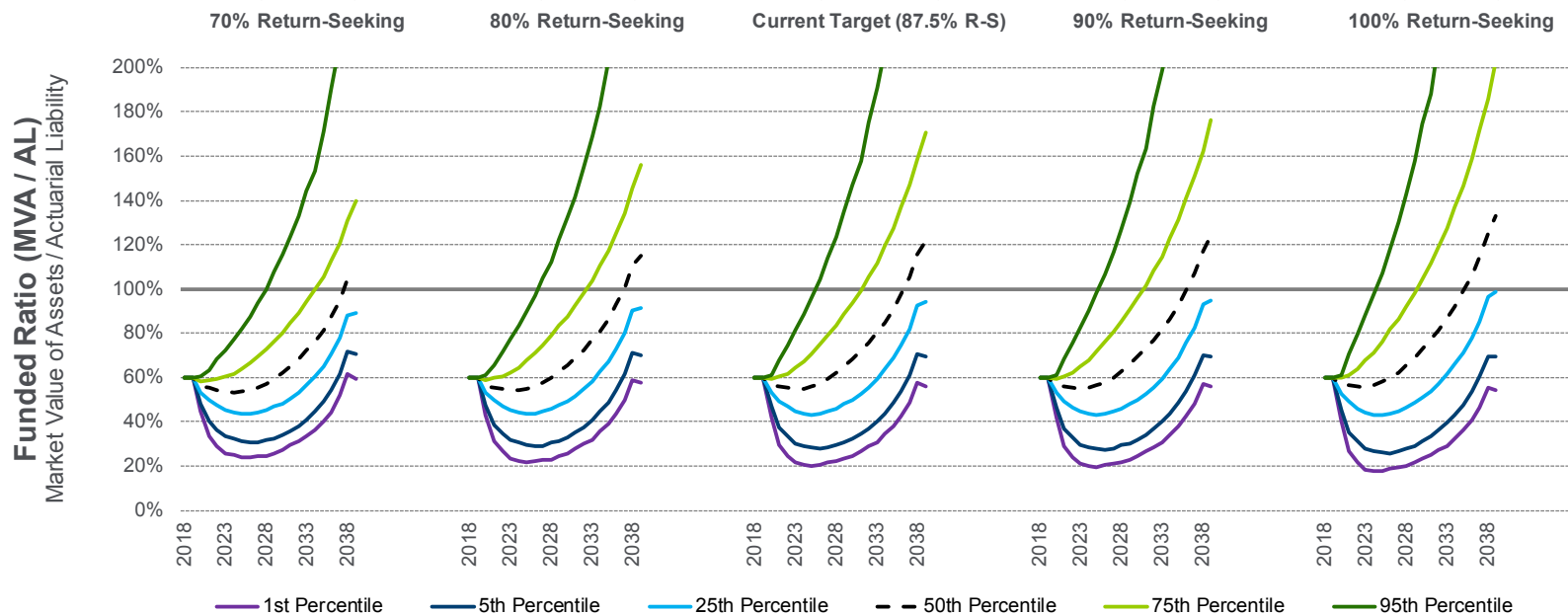


\* Liability projections assume discount rates determined via the Dedicated Gains Policy



# Asset-Liability Projection Results

## Funded Ratio (Market Value of Asset / Actuarial Liabilities)



Strategy	70% Return-Seeking			80% Return-Seeking			Current Target (87.5% R-S)			90% Return-Seeking			100% Return-Seeking		
Year	2028	2033	2038	2028	2033	2038	2028	2033	2038	2028	2033	2038	2028	2033	2038
1st Percentile	25%	33%	61%	23%	32%	59%	22%	31%	58%	22%	30%	57%	20%	29%	56%
5th Percentile	32%	41%	71%	31%	41%	71%	30%	40%	70%	29%	40%	70%	28%	39%	69%
25th Percentile	45%	56%	88%	46%	58%	91%	46%	59%	92%	46%	60%	93%	46%	61%	96%
50th Percentile	57%	72%	104%	60%	77%	110%	62%	81%	116%	63%	82%	117%	66%	87%	125%
75th Percentile	73%	94%	131%	79%	104%	145%	84%	112%	158%	85%	115%	162%	92%	127%	186%
95th Percentile	100%	144%	>200%	112%	169%	>200%	123%	191%	>200%	127%	199%	>200%	143%	>200%	>200%

### Key Takeaway:

- Contribution policy is projected to close the funding shortfall across investment strategies modeled

\* Liability projections assume discount rates determined via the Dedicated Gains Policy

# Aon Investments Capital Market Assumptions

## As of March 31, 2020 (30 Years)

	Expected Real Return <sup>1</sup>	Expected Nominal Return <sup>1</sup>	Expected Nominal Volatility
<b>Equity</b>			
1 Large Cap U.S. Equity	4.5%	6.7%	16.5%
2 Small Cap U.S. Equity	5.0%	7.2%	22.5%
3 Global Equity IMI	5.3%	7.5%	18.0%
4 International Equity (Developed)	5.3%	7.5%	19.5%
5 Emerging Markets Equity	5.9%	8.1%	26.5%
<b>Fixed Income</b>			
6 Cash (Gov't)	-1.0%	1.1%	1.5%
7 Core Fixed Income	0.0%	2.1%	4.5%
8 Intermediate Gov't Bonds (4-Year Duration)	-0.8%	1.3%	3.5%
9 Intermediate Corporate Bonds (4-Year Duration)	0.2%	2.3%	4.0%
10 Multi-Asset Credit <sup>2</sup>	3.2%	5.4%	9.5%
<b>Alternatives</b>			
11 Direct Hedge Funds <sup>2,3</sup>	2.6%	4.8%	9.0%
12 Non Core Real Estate	5.4%	7.6%	25.0%
13 Core Real Estate	3.7%	5.9%	14.5%
14 Private Equity	7.5%	9.8%	24.5%
15 Infrastructure	6.1%	8.3%	14.0%
16 Private Debt	4.4%	6.6%	17.0%
<b>Inflation</b>			
17 Inflation	0.0%	2.1%	1.5%

### Notes:

<sup>1</sup> All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees.

<sup>2</sup> Alpha incorporated in Expected Nominal Return.

<sup>3</sup> Represents diversified portfolio of direct hedge fund investments.

# Aon Investments Capital Market Assumptions

## As of March 31, 2020

Nominal Correlations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Large Cap U.S. Equity	1.00	0.92	0.96	0.78	0.72	0.09	0.05	-0.06	0.08	0.59	0.66	0.47	0.37	0.69	0.38	0.39	0.06
2	Small Cap U.S. Equity	0.92	1.00	0.90	0.72	0.67	0.07	0.04	-0.06	0.07	0.54	0.61	0.44	0.34	0.65	0.36	0.36	0.05
3	Global Equity IMI	0.96	0.90	1.00	0.90	0.84	0.08	0.05	-0.06	0.08	0.65	0.64	0.49	0.38	0.67	0.37	0.41	0.07
4	International Equity (Developed)	0.78	0.72	0.90	1.00	0.75	0.05	0.04	-0.05	0.07	0.60	0.55	0.44	0.34	0.56	0.31	0.36	0.08
5	Emerging Markets Equity	0.72	0.67	0.84	0.75	1.00	0.07	0.05	-0.05	0.08	0.63	0.47	0.41	0.31	0.53	0.29	0.39	0.07
6	Cash (Gov't)	0.09	0.07	0.08	0.05	0.07	1.00	0.46	0.61	0.50	0.13	-0.04	0.12	0.13	0.08	0.11	-0.01	0.54
7	Core Fixed Income	0.05	0.04	0.05	0.04	0.05	0.46	1.00	0.89	0.97	0.24	0.01	0.06	0.06	0.04	0.05	-0.03	0.13
8	Intermediate Gov't Bonds (4-Year Duration)	-0.06	-0.06	-0.06	-0.05	-0.05	0.61	0.89	1.00	0.83	-0.01	-0.25	0.01	0.02	-0.05	0.01	-0.27	0.25
9	Intermediate Corporate Bonds (4-Year Duration)	0.08	0.07	0.08	0.07	0.08	0.50	0.97	0.83	1.00	0.31	0.08	0.08	0.08	0.07	0.07	0.06	0.20
10	Multi-Asset Credit	0.59	0.54	0.65	0.60	0.63	0.13	0.24	-0.01	0.31	1.00	0.65	0.30	0.23	0.40	0.23	0.66	0.16
11	Direct Hedge Funds	0.66	0.61	0.64	0.55	0.47	-0.04	0.01	-0.25	0.08	0.65	1.00	0.31	0.24	0.45	0.24	0.53	0.03
12	Non Core Real Estate	0.47	0.44	0.49	0.44	0.41	0.12	0.06	0.01	0.08	0.30	0.31	1.00	0.96	0.38	0.21	0.21	0.08
13	Core Real Estate	0.37	0.34	0.38	0.34	0.31	0.13	0.06	0.02	0.08	0.23	0.24	0.96	1.00	0.31	0.18	0.16	0.08
14	Private Equity	0.69	0.65	0.67	0.56	0.53	0.08	0.04	-0.05	0.07	0.40	0.45	0.38	0.31	1.00	0.32	0.30	0.06
15	Infrastructure	0.38	0.36	0.37	0.31	0.29	0.11	0.05	0.01	0.07	0.23	0.24	0.21	0.18	0.32	1.00	0.17	0.07
16	Private Debt	0.39	0.36	0.41	0.36	0.39	-0.01	-0.03	-0.27	0.06	0.66	0.53	0.21	0.16	0.30	0.17	1.00	0.11
17	Inflation	0.06	0.05	0.07	0.08	0.07	0.54	0.13	0.25	0.20	0.16	0.03	0.08	0.08	0.06	0.07	0.11	1.00

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