

Consolidated Asset Pension Pool

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About the Board of Investments

Art. VIII, Section 13 – The Unified Investment Program is the only program specifically created by Constitutional mandate and whose purpose is to hold and invest the assets of:

- Public funds, including those of the State, all counties, cities, towns, and other local government entities
- Public school fund and permanent funds of the Montana university system
- Public retirement system assets
- State compensation insurance funds

The Montana Board of Investments is lead by a nine member board of Montanans with specific areas of expertise, including business, law, and agriculture among others.

Our highly specialized staff of 32 make up functional teams who focus on:

- *Investments*
- *Accounting/Financial Compliance*
- *Bond & Loan Programs*
- *Operations*

Prudent Investor Rule

17-6-201, MCA requires the Board to follow the “prudent investor rule,” which requires the Board and staff:

- (a) discharge the duties with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity with the same resources and familiar with like matters exercises in the conduct of an enterprise of a like character with like aims;
- (b) diversify the holdings of each fund within the unified investment program to minimize the risk of loss and to maximize the rate of return unless, under the circumstances, it is clearly prudent not to do so; and
- (c) discharge the duties solely in the interest of and for the benefit of the funds forming the unified investment program.

Board Investment Pools

Consolidated Asset Pension Pool (CAPP)

- TRS, PERS, JRS, HPORS, SRS, GWPORS, MPORS, FURS, VFCA

Trust Funds Investment Pool (TFIP)

- Noxious Weed, Abandoned Mine, Environmental Settlements, Tobacco, etc

Separately Managed Investments (SMI)

- Montana State Fund, Treasurer's Cash Account, etc

Short-Term Investment Pool (STIP)

- Liquidity for state, local governments, school districts, and Montana University System

Consolidated Asset Pension Pool (CAPP)

Created in 2017, the CAPP was designed to simplify investment holdings across multiple asset classes and improve flexibility

The pension plans hold both CAPP and STIP to maximize returns and provide liquidity for benefit payments, respectively

Perpetual
Public
Funds

The Pension Funds are perpetual and will exist forever.

Short-term market fluctuations are to be expected and planned for.

Diversification and Non-Correlated Assets protect and preserve principal.

The Importance of Long-Term Investing

KEY TAKEAWAYS

- Buy-and-hold involves buying securities to hold for a long-term period, although the definition of long-term varies based on the investor.
- Market timing includes actively buying and selling to try and get into the market at the most advantageous times while avoiding the disastrous times.
- Research shows that long-term buy-and-hold tends to outperform, where market timing remains very difficult. Much of the market's greatest returns or declines are concentrated in a short time frame.
- There is an in-between strategy that combines buy-and-hold with active security selection; examples include allocation adjustments and tax management.

<https://www.investopedia.com/articles/stocks/08/passive-active-investing.asp>

“Our favorite holding period is forever.”

- Warren Buffett

Diversification

Spreads risk across key factors such as geography, volatility, liquidity and economic outcomes, which reduces the adverse impact of any one investment loss on the overall fund.

Annual Asset Class Performance

As of September 30, 2019

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
Best	34.00	35.03	39.38	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	26.96
	26.19	32.18	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	20.93
	21.39	26.34	15.91	2.65	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	5.03	0.01	20.55
	21.36	19.31	11.63	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	15.77	21.83	-1.26	14.18
	13.54	18.37	11.17	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	12.80
	12.17	16.32	10.25	-21.37	27.17	6.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	12.05
	7.49	15.79	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	11.41
	5.34	11.86	6.60	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	8.52
	4.91	10.39	5.49	-35.65	11.47	10.16	-4.18	10.78	0.07	2.45	-1.44	4.68	7.50	-4.68	7.58
	4.55	4.85	5.00	-37.00	11.41	7.75	-5.12	6.51	-2.02	0.04	-3.30	2.65	5.23	-11.01	5.90
	3.07	4.34	1.87	-37.74	5.93	6.55	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	5.22
	2.84	2.72	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	3.77
	2.74	2.07	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-1.95	-11.92	0.51	1.70	-14.58	3.13
Worst	2.43	0.49	-15.70	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	1.81
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloomberg US Agg Bond - FI	Bloomberg US Corp Hi Yield - FI	Bloomberg US Trsy US TIPS - FI	Bloomberg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloomberg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.

Correlation is the degree to which two asset types move together (closer to 1) or apart (closer to **-1**) throughout time.

Assets which are non-correlated have less return volatility and protect against losses.

RVK Assumptions

Expected Asset Class Correlations

	Domestic Equity*	International Equity*	Private Equity	Natural Resources*	Real Estate	TIPS	Broad Fixed Income/Mortgage Backed*	Emerging Markets Debt (Hard)	US Treasury Agency*	Investment Grade Credit*	High Yield Fixed Income	Diversifying Strategies*	Cash Equivalents
Domestic Equity*	1.00	0.83	0.74	0.74	0.22	0.02	0.16	0.49	0.02	0.26	0.62	0.82	0.02
International Equity*	0.83	1.00	0.70	0.86	0.27	0.15	0.00	0.64	-0.21	0.25	0.69	0.93	-0.06
Private Equity	0.74	0.70	1.00	0.72	0.42	-0.19	-0.26	0.28	-0.38	0.01	0.42	0.66	0.06
Natural Resources*	0.74	0.86	0.72	1.00	0.17	0.28	0.03	0.57	-0.25	0.36	0.67	0.85	-0.21
Real Estate	0.22	0.27	0.42	0.17	1.00	0.10	-0.04	0.21	-0.06	0.01	0.07	0.34	0.02
TIPS	0.02	0.15	-0.19	0.28	0.10	1.00	0.74	0.52	0.58	0.75	0.29	0.40	0.05
Broad Fixed Income/Mortgage Backed*	0.16	0.00	-0.26	0.03	-0.04	0.74	1.00	0.52	0.92	0.88	0.23	0.28	0.26
Emerging Markets Debt (Hard)	0.49	0.64	0.28	0.57	0.21	0.52	0.52	1.00	0.26	0.67	0.68	0.78	-0.01
US Treasury Agency*	0.02	-0.21	-0.38	-0.25	-0.06	0.58	0.92	0.26	1.00	0.72	-0.01	0.02	0.36
Investment Grade Credit*	0.26	0.25	0.01	0.36	0.01	0.75	0.88	0.67	0.72	1.00	0.46	0.50	0.21
High Yield Fixed Income	0.62	0.69	0.42	0.67	0.07	0.29	0.23	0.68	-0.01	0.46	1.00	0.79	-0.05
Diversifying Strategies*	0.82	0.93	0.66	0.85	0.34	0.40	0.28	0.78	0.02	0.50	0.79	1.00	-0.02
Cash Equivalents	0.02	-0.06	0.06	-0.21	0.02	0.05	0.26	-0.01	0.36	0.21	-0.05	-0.02	1.00

Non-Correlated Assets

Asset Class	Bottom Range	Top Range	Midpoint
Domestic Equities	24	36	30
International Equities	11	21	16
Private Investments	11	17	14
Natural Resources	1	7	4
Real Estate	5	13	9
Core Fixed Income	15	25	20
Non-Core Fixed Income	3	7	4
Cash*	0	4	2
TOTAL			100

**Includes cash at the CAPP and Plan level*

Strategic Asset Allocation

Investment Returns

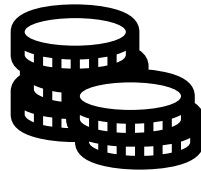
	Longest Measurable Plan Return (as of 11/30/2019)
Teachers Retirement System	7.70%
Public Employees Retirement System	7.69%
Game Wardens and Peace Officers Retirement System	7.59%
Highway Patrol Officers Retirement System	7.58%
Firefighters Unified Retirement System	7.55%
Judges Retirement System	7.59%
Municipal Police Retirement System	7.55%
Sheriffs Retirement System	7.58%
Volunteer Firefighters	7.39%

Strategic Direction



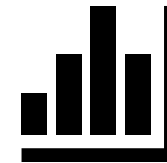
Increase allocations to higher yielding, less liquid asset classes, such as:

- Real Estate
- Natural Resources
- Private Investments



Redeploy lower yielding assets as opportunities in the market arise:

- Core Fixed Income
- Cash



Increase allocation to Domestic Equities as/if valuations become more attractive

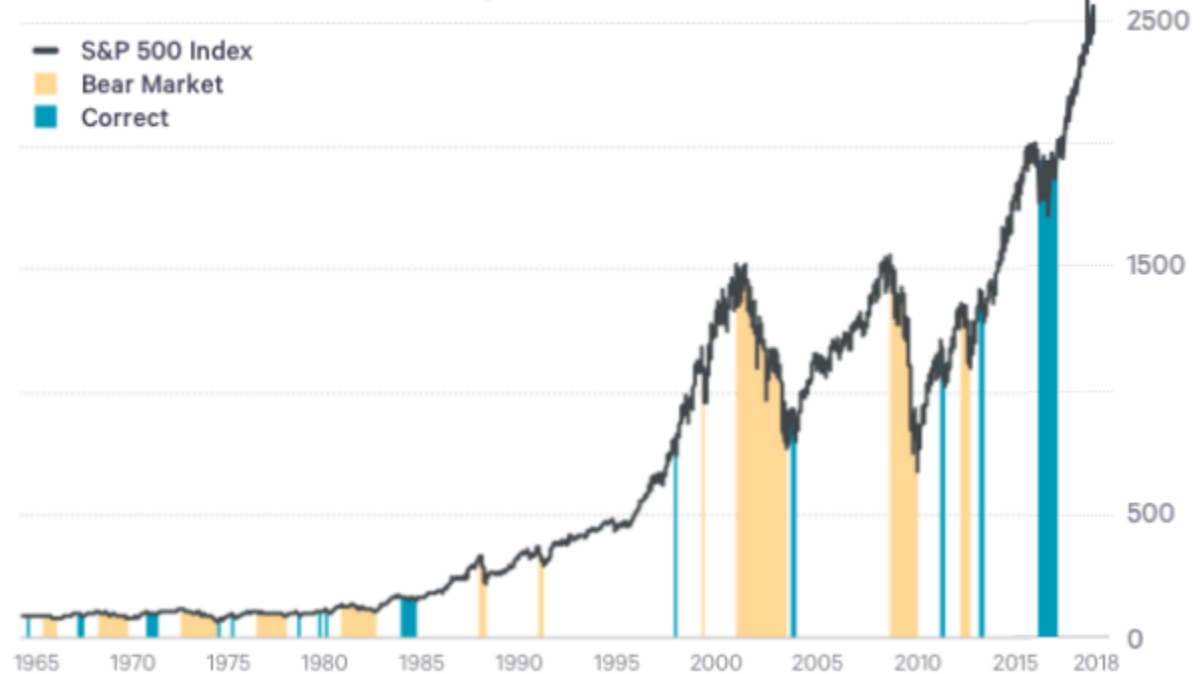
Downturns Happen, Followed by Recovery.

Bear markets and corrections happen in public and private markets.

Montana guards against downside risk through broad diversification, cash and liquid holdings, and maintaining a long-term investment approach.

“What if” scenarios are considered in the investment decisions of the BOI.

Bear Markets and Corrections, 1965-2018



<https://blog.wealthfront.com/stock-market-corrections-not-as-scary-as-you-think/>

Implementation Costs and Return Differential

As of June 30, 2019...	Defined Contribution	Defined Benefit
Return	5% (projected)	7.69% (PERS) 7.7% (TRS)
Costs (in \$)	\$818,128	\$7,198,414*
AUM	\$223,532,240.44	\$19,455,172.97
Costs (% of AUM)	.366%	.037%

**BOI costs are inclusive of all internal BOI investment activities*

Defined Contribution Costs per MPERA "Defined Contribution Plan Participant Fees"

Cost Controls

For the rolling 5-years analyzed:

- Net total return was above both the US Public median and peer median.
- Investment costs were below both benchmark and peers.

1. Lower cost implementation style

- Less external active management (more lower cost passive and internal)
- More partnerships as a percentage of external
- Less fund of funds
- Less overlays
- Other style differences

2. Paying less than peers for similar services

- External investment management costs
- Internal investment management costs
- Oversight, custodial & other costs

Source: CEM Benchmarking
2018

Benefits, Income, and Asset Appreciation

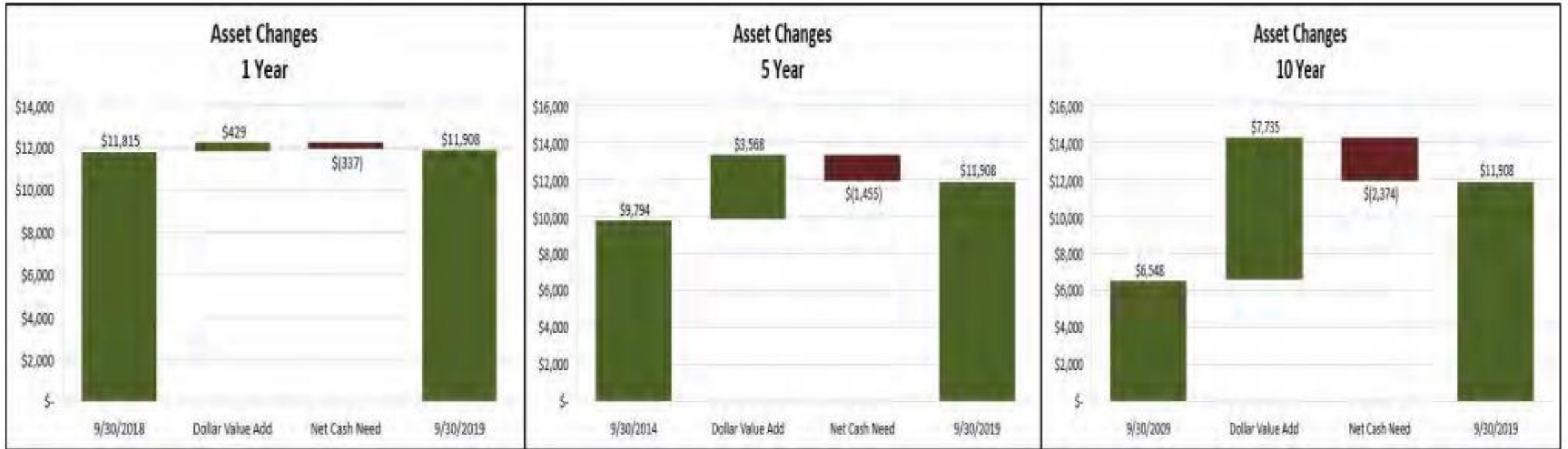
Annual Benefits Paid (<i>Net of Contributions</i>):	~\$350 million
<u>Less Dividend and Coupon Income:</u>	<u>~\$175 million</u>
Required Asset Appreciation	~\$175 million

For FY2019, this would require a rate of return of **1.5%** to cover net annual benefits and preserve corpus.

Anything in excess of 1.5% would improve funded status (surplus).

Anything less than 1.5% would decrease funded status (deficit).

Dollar Value Add Surplus (Net Cash Deficit)



One-Year Surplus: \$92 million

5-Year Surplus: \$2.113 billion

10-Year Surplus: \$5.361 billion

Fiduciary Duty

The Board, our consultants, and contractors have a fiduciary duty to the beneficiaries of the funds we manage.

Impacted individuals with standing and cause can sue for damages for “breach of fiduciary duty.”

Additional scrutiny for those without a fiduciary duty to the beneficiaries is absolutely warranted, particularly because legislators have a responsibility to the taxpayers as well.

Conclusion

Montana's pension funds:

- Investment returns are outperforming their peers
- Implementation costs are lower than peers
- Are broadly diversified to guard against economic volatility and market risk
- Meet or exceed long-term return expectations