



Michigan Department of Treasury Bureau of Investments



June 10, 2020



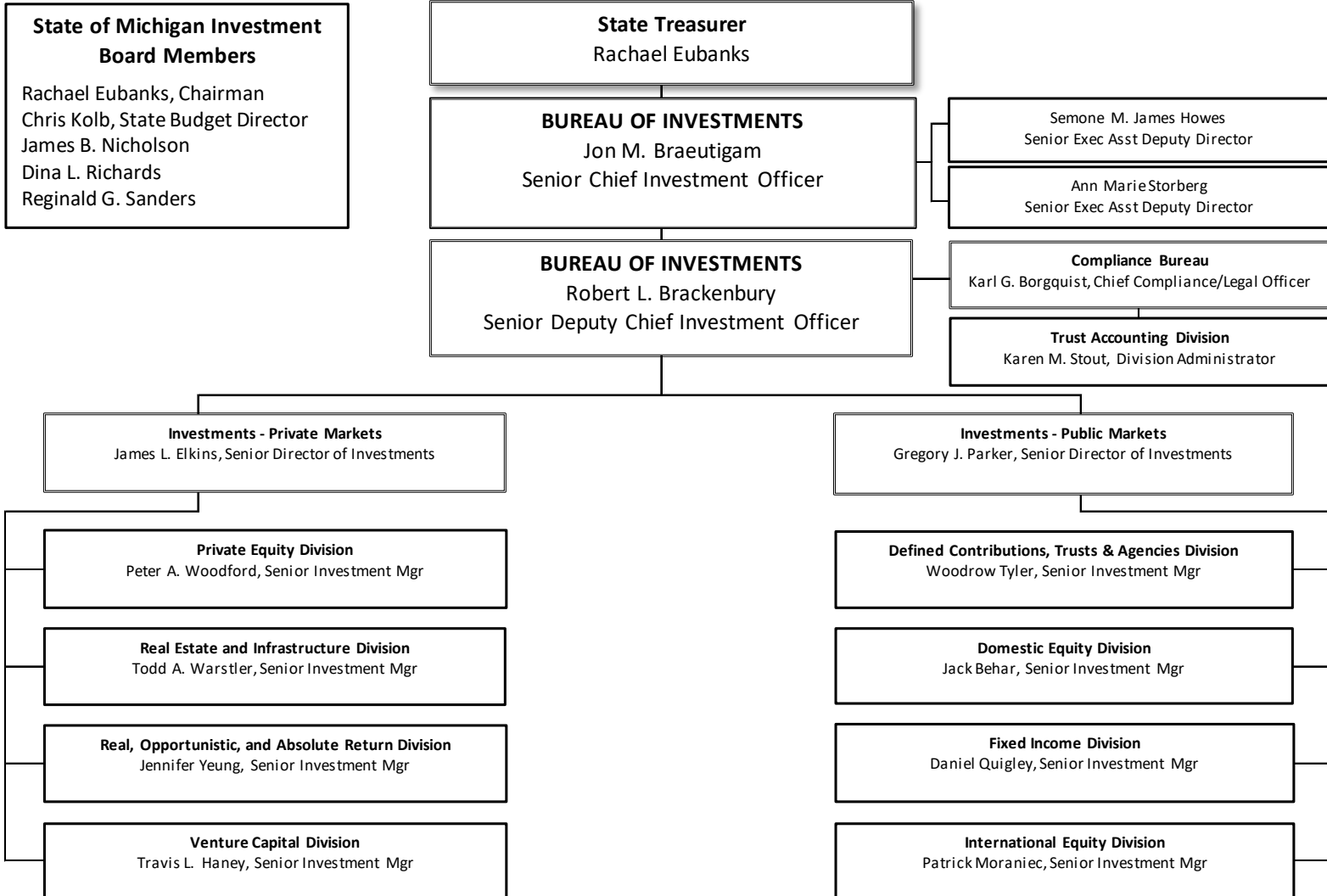
Executive Summary

- Long term market returns have been robust but in the next ten years most industry experts anticipate lower returns.
- Therefore, most plans are lowering (or have lowered already) their plans actuarial assumed rate of return.
- The plan's returns substantially beat peer returns over longer time periods.



Bureau of Investments

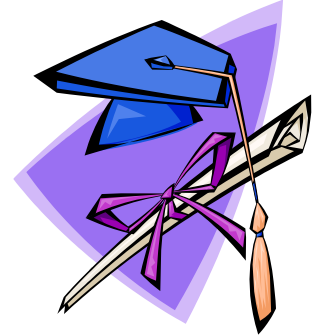
As of March 31, 2020





Bureau of Investments

As of March 31, 2020



- 78 BOI Employees.
- 51 Investment Professionals.
- 36 Individuals with a Masters Degree or higher.
- 16 C.F.A. Charter holders.
- 12 Other professional designations.
- Total of \$92.7 billion assets under management.
- The large investment pool is an advantage for the MPSERS.



MPERS Funded Ratio

\$47.5 Billion as of March 31, 2020

FY Ending September	Market Value of Assets	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio Based on Actuarial Value
2018*	\$50,343	\$50,630	\$83,375	60.7%
2017*	\$47,012	\$47,255	\$76,693	61.6%
2016	\$43,461	\$43,204	\$72,310	59.7%
2015	\$42,382	\$41,006	\$67,728	60.5%
2014*	\$43,773	\$39,626	\$66,105	59.9%
2013	\$40,016	\$38,044	\$63,840	59.6%
2012	\$37,700	\$38,450	\$62,716	61.3%
1983	\$6,285	\$6,035	\$8,434	71.6%

(\$ in Millions)

*Revised actuarial assumptions and/or methods.

Source: Pension Plans Component Unit Financial Reports and Actuarial Valuations, years ending in September

Pension Plan Only



MPSERS

Contributions and Distributions

FY 2019

Contributions

Members	\$403.1
Employer	2,706.7
Total Contributions	<u>\$3,109.8</u>

Distributions

Pension Benefit Distributions	<u>5,058.6</u>
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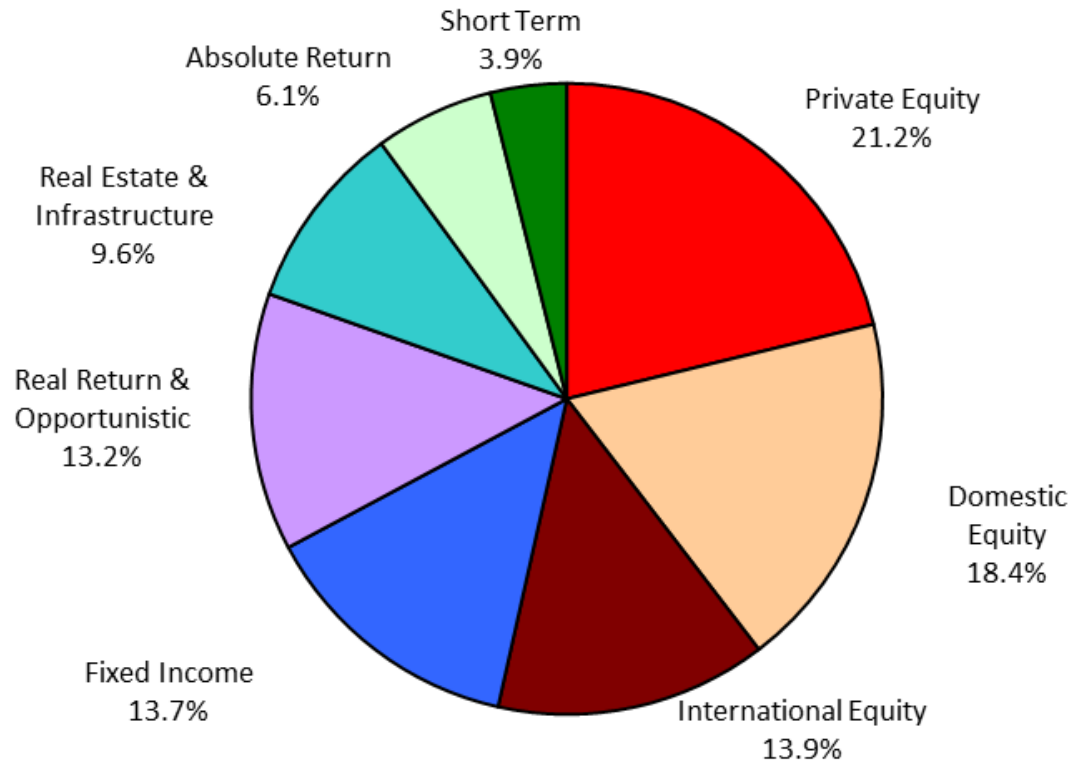
Net **(\$1,948.8)**

- Equal to (per quarter on average) (\$487.2)
- Or about 3.3% of total market value of fund



MPERS Asset Allocation

As of March 31, 2020



Diversification is essential to protect the funds. However, still reliant on equity markets to generate the actuarial assumed rate of return.

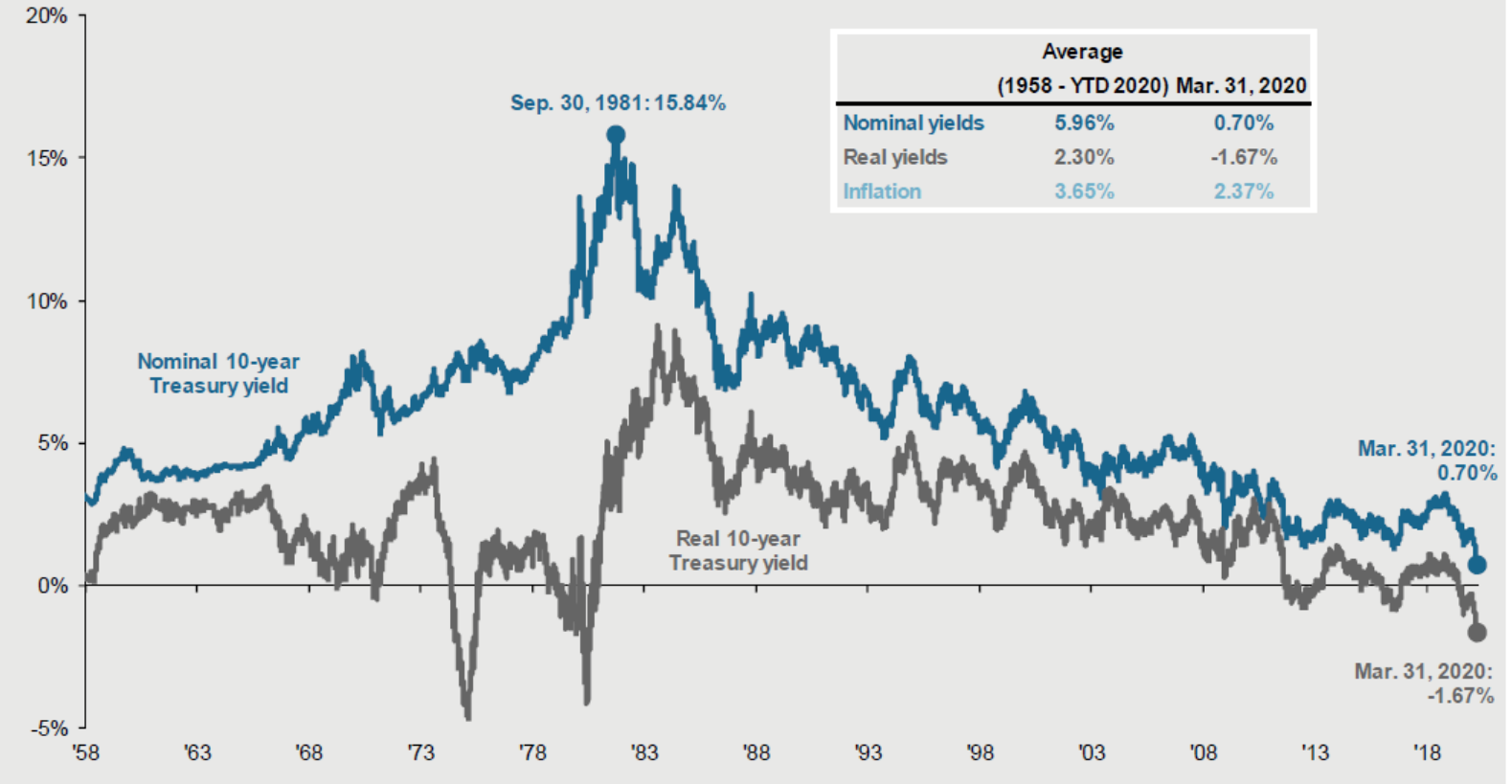


Interest Rates and Inflation

Interest rates and inflation

Fixed income

Nominal and real 10-year Treasury yields



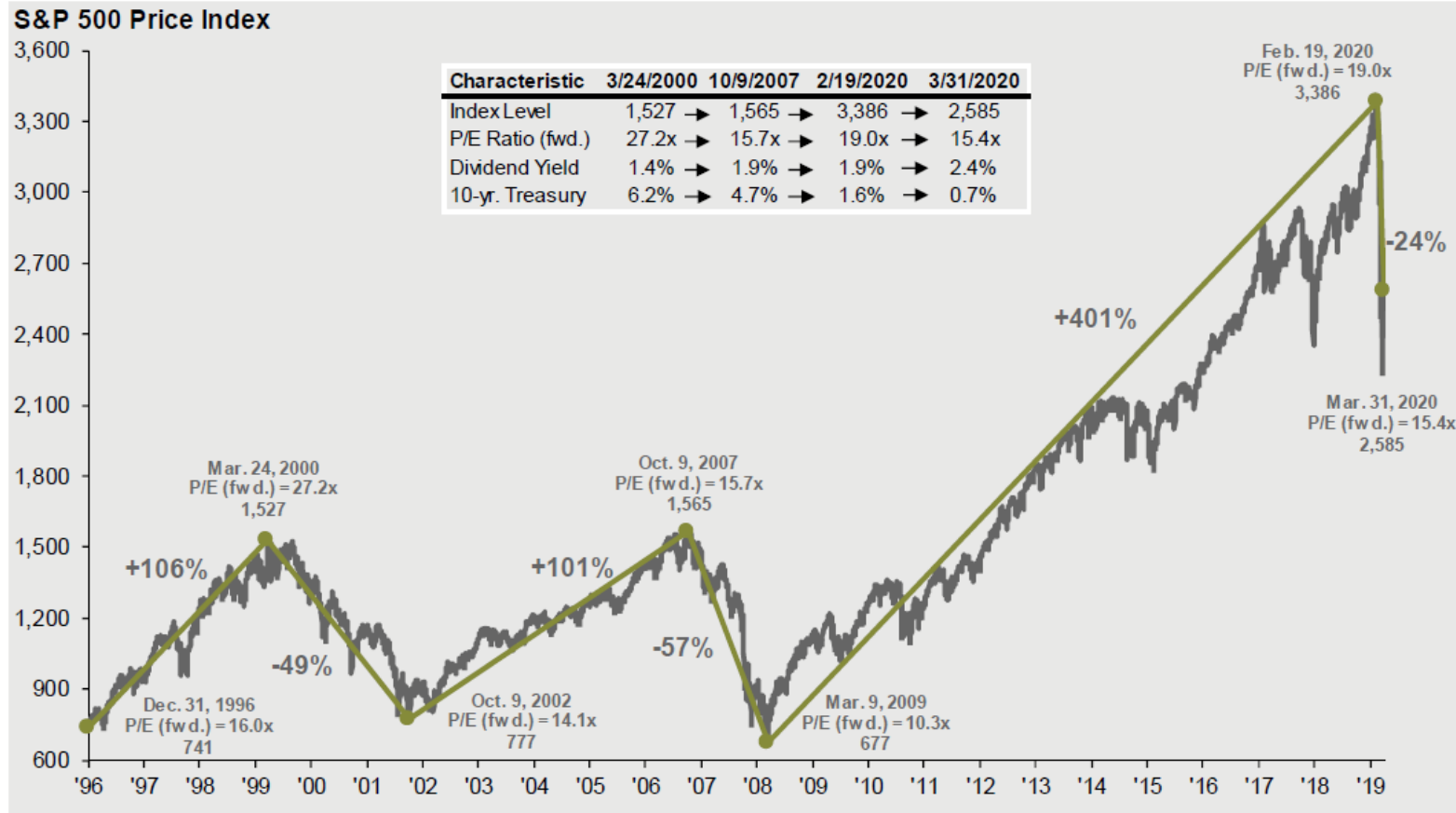
Source: BLS, FactSet, Federal Reserve, J.P. Morgan Asset Management.
 Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month except for March 2020 where real yields are calculated by subtracting out February 2020 year-over-year core inflation.
 Guide to the Markets – U.S. Data are as of March 31, 2020.



S&P 500 – Index at Inflection Points

S&P 500 Index at inflection points

Equities



Source: Compustat, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management.
 Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat.
 Forward price to earnings ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.
 Guide to the Markets – U.S. Data are as of March 31, 2020.



MPERS FUND

Time-Weighted Rate of Return

As of March 31, 2020

Asset Class w/Benchmark	One Year*		Three Years*		Five Years*		Seven Years*		Ten Years*	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Total Plan	0.2%	17	6.6%	17	6.4%	12	8.1%	6	8.6%	13
Median - Greater than \$10 Billion	-1.2%		4.7%		4.7%		6.2%		7.1%	

- Historically the investment results have compared favorably to other large public pension plans (Larger than \$10 billion). Over the past ten years, the returns added approximately \$12 billion in value compared to what a peer median investment return would have earned.

* Annualized Returns



MPSERS FUND

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Domestic Equities	-11.8%		4.1%		5.5%		9.0%		9.9%	
S&P 1500 Index	-8.5%		4.2%		6.2%		9.2%		10.3%	
International Equities	-14.3%		-1.2%		0.3%		2.1%		3.2%	
International Blended Benchmark	-15.6%		-2.0%		-0.6%		1.2%		2.0%	
Bonds	3.6%		4.0%		3.7%		3.6%		4.4%	
Barclays U.S. Aggregate	8.9%		4.8%		3.4%		3.2%		3.9%	
Private Equity**	13.7%		14.9%		12.9%		14.1%		14.4%	
Alternative Blended Benchmark	35.3%		18.7%		15.0%		18.1%		16.9%	
Real Estate & Infrastructure	6.3%		8.6%		9.2%		10.8%		11.0%	
NCREIF Open Fund Index Net	3.9%		5.9%		7.5%		8.9%		10.4%	
Absolute and Real Return	5.0%		5.0%		3.7%		4.8%		4.8%	
HFRI FOF Cons 1 month lagged	3.0%		2.7%		2.0%		2.8%		2.7%	
Real Return / Opportunistic	8.3%		12.0%		10.2%		11.7%		10.3%	
Benchmark	6.3%		7.0%		7.1%		7.1%		7.3%	
Cash Equivalents	2.4%		2.1%		1.6%		1.2%		0.9%	
30-Day T-Bill	2.0%		1.7%		1.1%		0.8%		0.6%	

* Annualized Returns

** S&P500 + 300 BP with a 3 month lag



U.S. Economy

- Equity market volatility has returned in 2020.
- Employment data is poor and is likely to remain so into the near and moderate horizons.
- Corporate earnings are likely to be negatively impacted.
- Low gas prices and low interest rates add some stimulus to the economy.
- Are these positives enough to outweigh the negatives of Coronavirus and Trade Wars on the US and Global economies?



Conclusion

- We had experienced a 'Bull Market' since 2009, but we are now at the end of the cycle.
- The U.S economy was doing well through December 2019. It is now contracting but it is uncertain how much is temporary with a fast recovery and how much will be more lasting with a slow recovery.
- We will continue to maintain a long-term focus with sufficient liquidity to manage through short-term market changes.