



Michigan Department of Treasury Bureau of Investments



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Chief Investment Officer
May 2, 2024



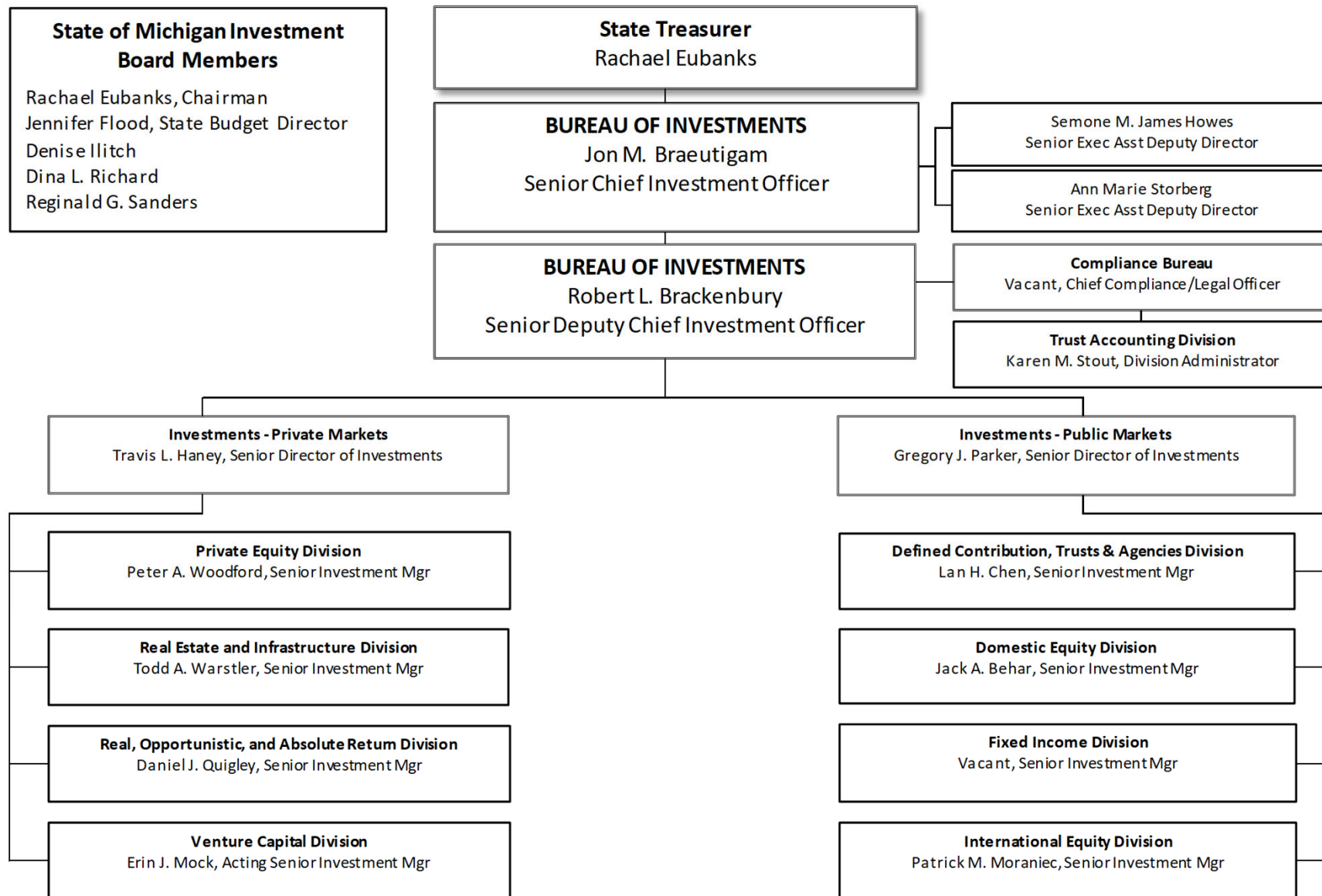
Executive Summary

- Long term market returns continue to be robust for the pension funds, despite significant global and domestic volatility and challenges.
- The State of Michigan has strong funding policies in place for the pension and OPEB plans.
- The pension plans substantially beat peers across all longer time periods and exceeded the assumed rate of return.



Bureau of Investments

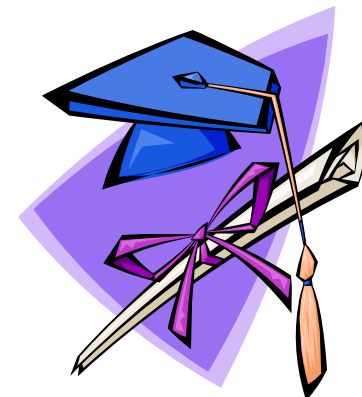
As of April 1, 2024





Bureau of Investments

As of January 1, 2024



- 75 BOI Employees.
- 49 Investment Professionals.
- 32 Individuals with a Masters Degree or higher.
- 17 C.F.A. Charter holders.
- 13 Other professional designations.
- Total of \$155.6 billion assets under management.
- The large investment pool is an advantage for the plans.



MSPRS Funded Ratio

\$1.9 Billion as of December 31, 2023

FY Ending September	Market Value of Assets	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio Based on Actuarial
2022	\$1,697	\$1,780	\$2,676	66.5%
2021*	\$1,843	\$1,752	\$2,609	67.2%
2020	\$1,513	\$1,545	\$2,374	65.1%
2019	\$1,504	\$1,520	\$2,321	65.5%
2018*	\$1,492	\$1,499	\$2,271	66.0%
2017	\$1,391	\$1,398	\$2,147	65.1%
2016	\$1,278	\$1,273	\$2,008	63.4%
1983	\$178	\$178	\$272	65.4%

(\$ 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



MSPRS

Contributions and Distributions

FY 2023

Contributions

Members	\$4.6
Employer	192.6

Total Contributions	\$197.2
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Pension Benefit Distributions	162.1
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Net	\$35.1
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- Equal to (per quarter on average) \$8.8
- Or about 1.9% of total market value of fund

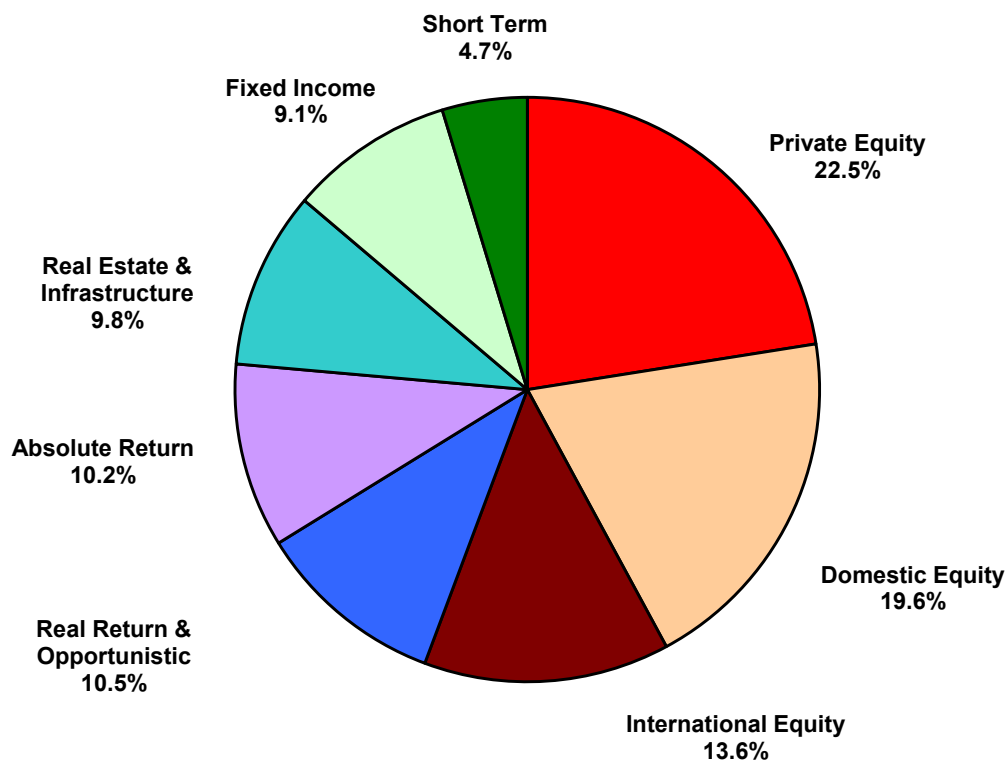
Figures are in millions

Pension Plan only



MSPRS Asset Allocation

As of December 31, 2023

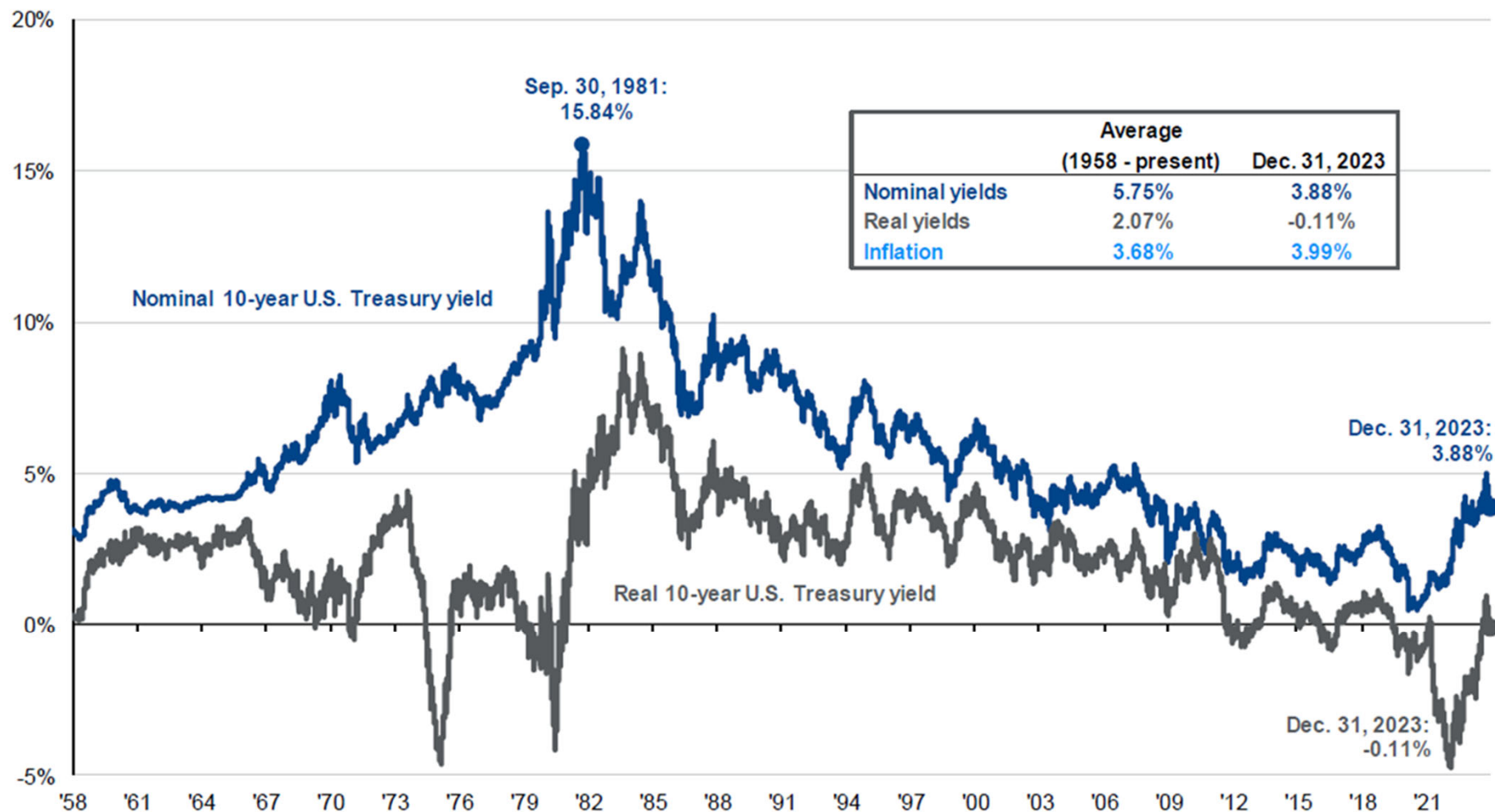


Diversification is essential to protect the funds. However, still reliant on equity markets to generate the actuarial rate of return.



Interest Rates and Inflation

Nominal and real U.S. 10-year Treasury yields



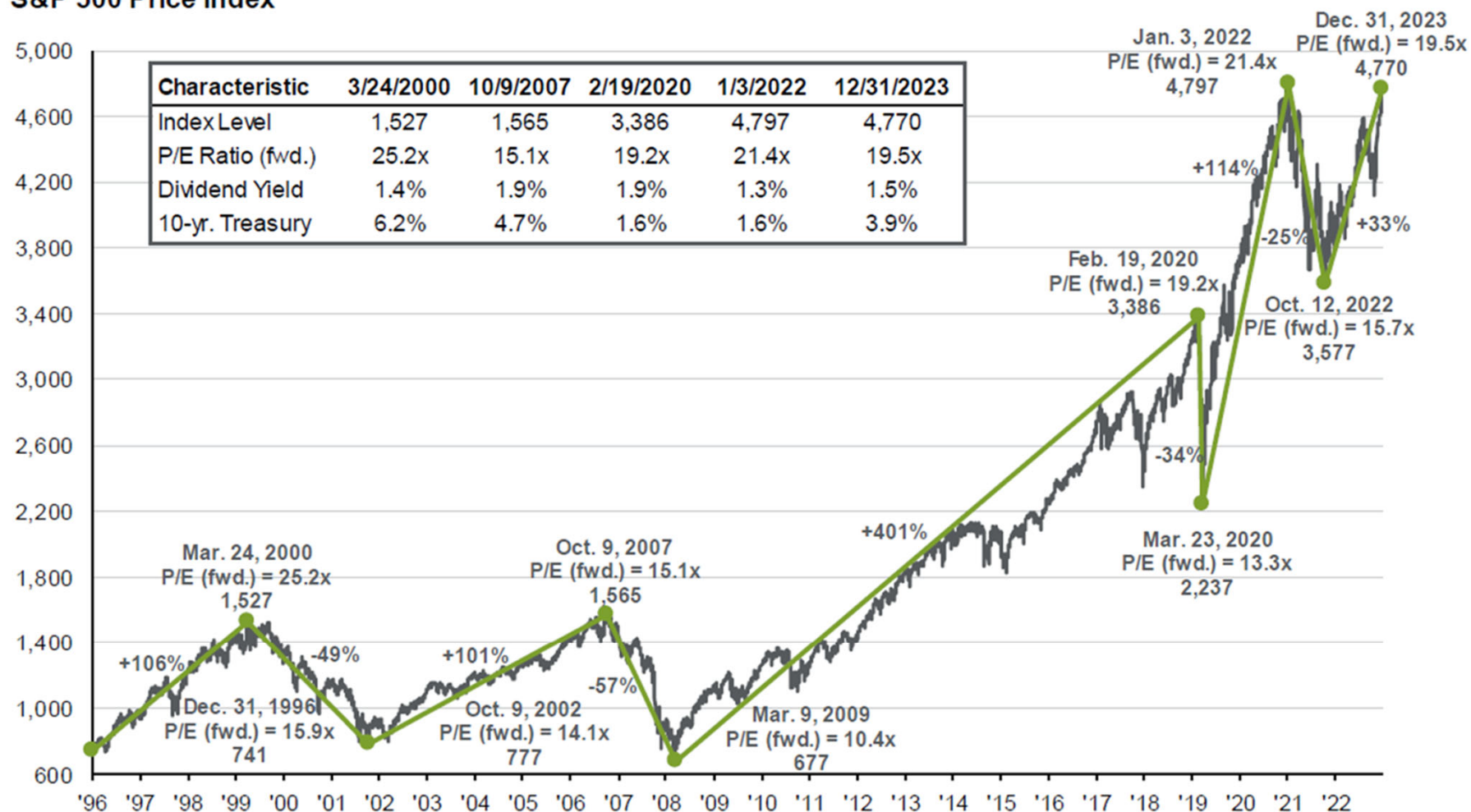
Source: BLS, FactSet, Federal Reserve, J.P. Morgan Asset Management.
Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month. For the current month, we use the prior month's core CPI figures until the latest data are available.
Guide to the Markets – U.S. Data are as of December 31, 2023.

J.P.Morgan
ASSET MANAGEMENT



S&P 500 Index at Inflection Points

S&P 500 Price Index



Source: Compustat, FactSet, Federal Reserve, Refinitiv Datastream, 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 IBES estimates and FactSet estimates since January 2022. 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 December 31, 2023.



MSPRS FUND

Time-Weighted Rate of Return

As of December 31, 2023

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	9.8%	69	7.9%	17	10.0%	23	9.8%	12	9.0%	12
Median - Greater than \$10 Billion**	11.8%		6.0%		9.3%		8.5%		7.4%	

* Annualized Returns

** Comparison universe is the State Street Universe comprised of Public Funds greater than \$10 Billion on the total plan level and greater than \$1 Billion for asset classes.

- Historically the investment results have compared favorably to other large public pension plans (larger than \$10 billion).



U.S. Economy & Conclusion

- The US economy is performing consistent with a solid growth and stubborn inflation scenario.
- Talk of a “soft landing” rather than a recession continues to be the base case by many experts.
- The US Federal Reserve is taking a patient approach when considering any interest rate reductions.
- We will continue to maintain a long-term focus with sufficient liquidity to manage through short-term market changes.