



2020

Annual
Retirement
Conference

MERS Defined Benefit Portfolio Management & Performance Updates

Jeb Burns, Chief Investment Officer

September 2020

Agenda

- MERS Portfolio Characteristics
- Managing Through a Crisis
- Liquidity Considerations
- Portfolio Rebalancing
- Performance
- Market Environment

MERS Portfolio Characteristics

- Disciplined investment process
- Globally diversified
- Valuation focused investors
- May lag in periods of extended bull markets
- Focus on risk-adjusted returns

Managing Through a Crisis

Discipline

- Critical to follow the model; eliminate emotion
- Rebalancing when an asset's return provides adequate compensation for the risk; you will never know the bottom

Patience

- Volatility tends to persist and opportunities will continue to present themselves
- Rebalancing is a process

Communication

- Team communication
- Weekly PRC and daily portfolio positioning meetings/calls
- Discussions with brokers and custodial bank
- Conversations and webinars with managers and research providers
- Engagement with industry peers

Long-Term Focus

- What opportunities will emerge?
- What lessons can we learn?

Market Environment

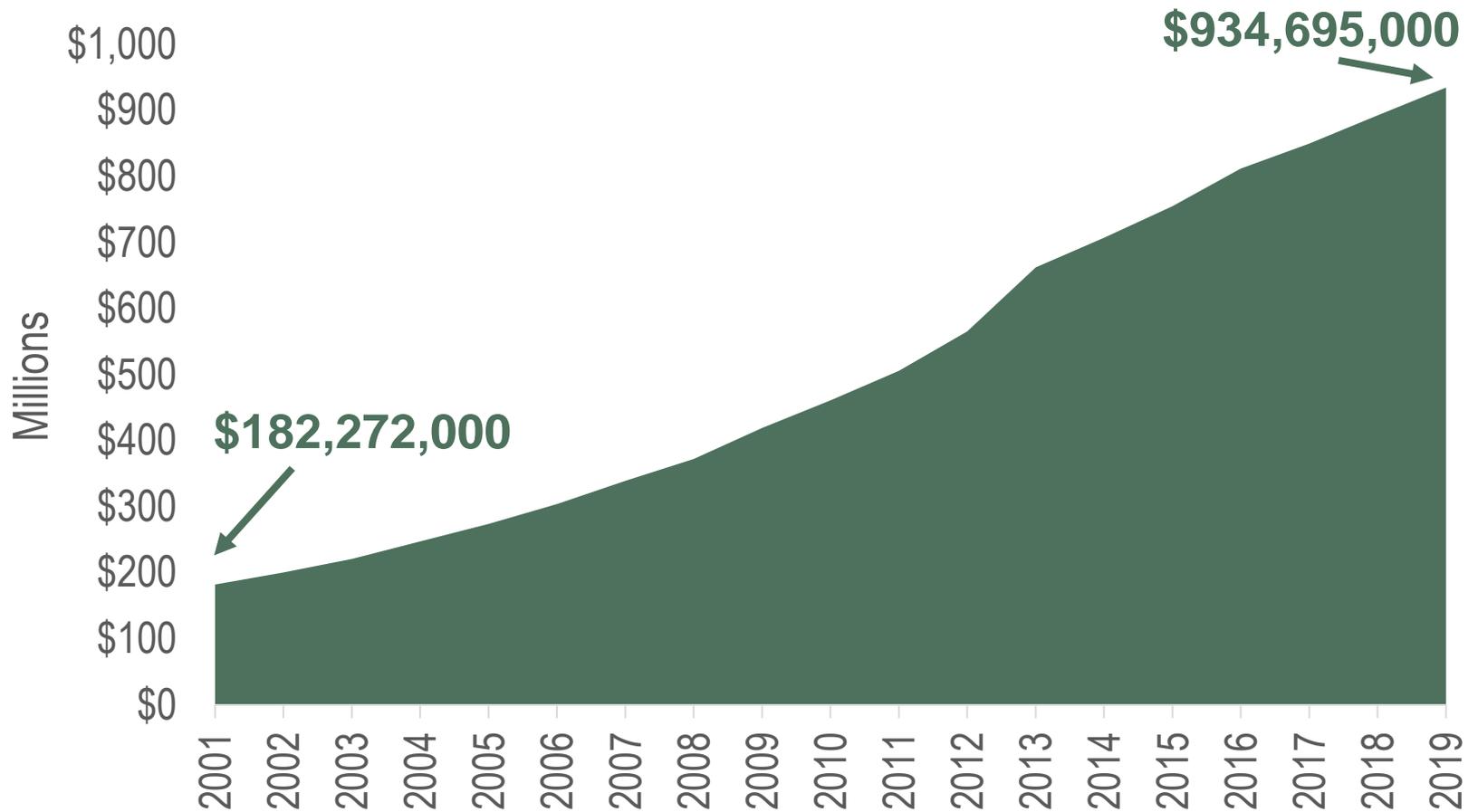
- The last two quarters have seen unprecedented volatility (upside and downside)
 - Dramatic risk off then dramatic risk on
- Unprecedented economic decline
 - Materially worse than 2008/2009
- Unprecedented policy response
 - Both in the U.S. and abroad
- What does a return to “normal” look like?
- What is the shape of the recovery?
 - L-shaped, U-shaped, or V-shaped
- Will the markets stay at elevated levels?
- How long to return to full employment?
- Lasting impacts of COVID-19 pandemic

Liquidity Considerations

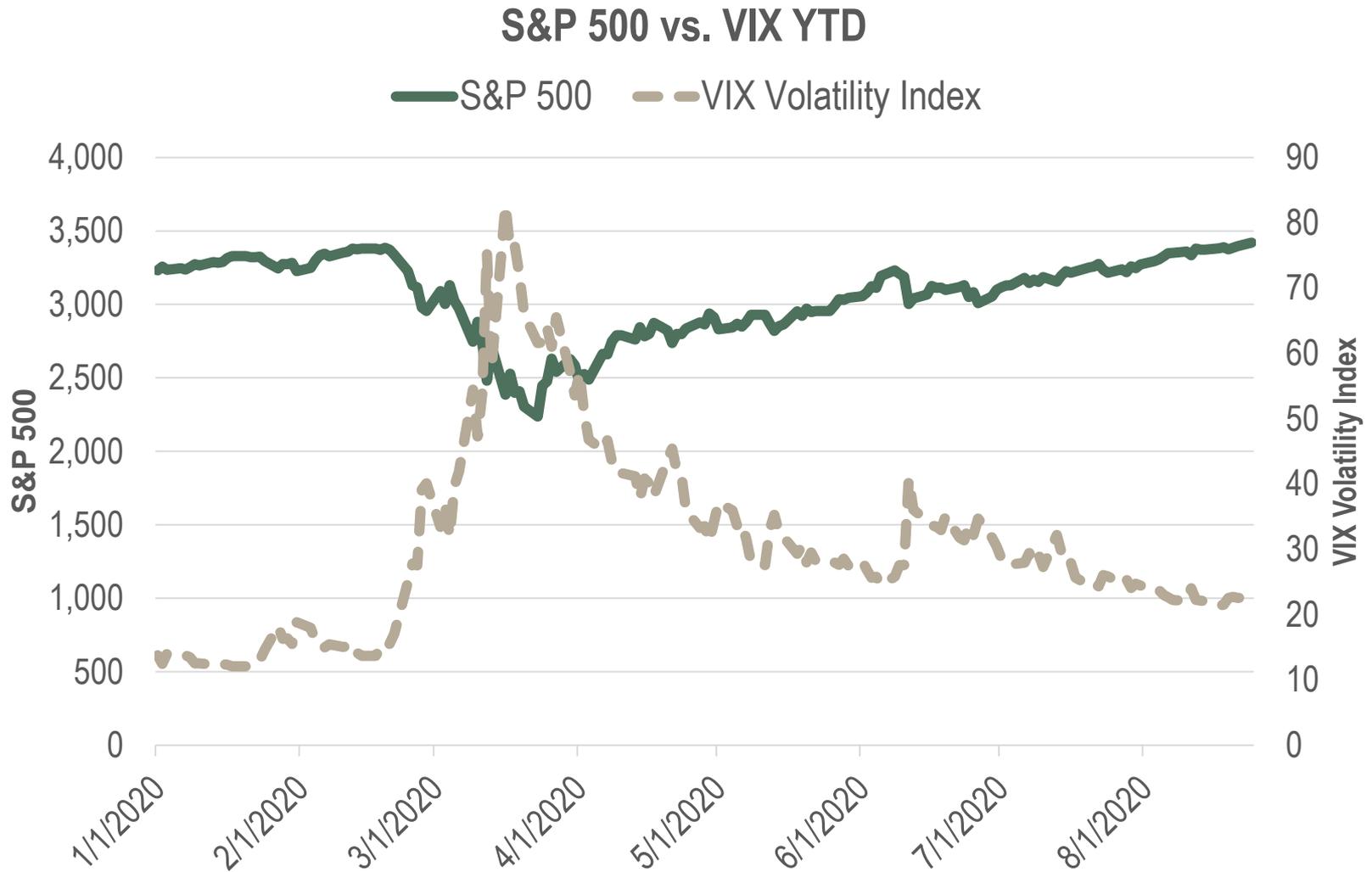
It's important to proactively manage liquidity **before and during** a crisis to ensure the following:

1. **Monthly pension obligations are paid**
2. Don't forget #1
3. Contractual private market capital calls are met
4. Adequate liquidity to rebalance the portfolio and take advantage of market opportunities

Benefit Payments, Refunds & Transfers Out



Market Volatility



Exchange Traded Funds (ETF)

- An ETF is an investment fund that invests in a basket of stocks, bonds or other assets
 - ETFs are a source of liquidity and are less expensive than using active managers
 - ETFs allow for an efficient portfolio rebalance and also give ability to take advantages of the market when the window to do so may be short
- MERS has become a first-mover with our use of ETFs; we expect the rest of the industry to follow suit

*BlackRock Turning Point (July 2020)
How volatility and performance in 2020
accelerated institutional adoption of fixed
income ETFs*

“ Fixed income ETFs proved valuable in helping our fund effectively navigate the COVID-19 crisis environment. Even as volatility soared, we were readily able to raise cash by selling ETFs in order to meet our plan’s benefit payment needs. We were able to use the liquidity generated from Treasury ETFs to meaningfully allocate to high yield and emerging market debt ETFs during the course of March 2020. Building similar size positions in the cash bond market would have been extremely challenging given the deteriorating liquidity in those markets.”

**– Jeb Burns, chief investment officer,
Municipal Employees’ Retirement
System of Michigan**

COVID Crisis Rebalancing

- Attractiveness of higher risk assets increased dramatically during crisis
 - Valuations on equities, emerging market debt and credit (high yield and investment grade) cheapened substantially
 - Asset allocation model required “safe” assets (cash and U.S. Treasuries) to be sold to fund increased allocation to riskier assets
- From February 23 (start of crisis) to the end of Q1, MERS was able to trade \$2 billion of ETFs to rebalance and take advantage of market dislocations

COVID Crisis Performance Summary

	January	February	March	Q1	Q1 Universe
MERS' Portfolio (Gross)	-0.75%	-3.95%	-8.15%	-12.45%	57 th percentile
Policy Benchmark	-0.04%	-4.87%	-9.68%	-14.11%	74 th percentile
Excess	-0.71%	0.92%	1.53%	1.66%	

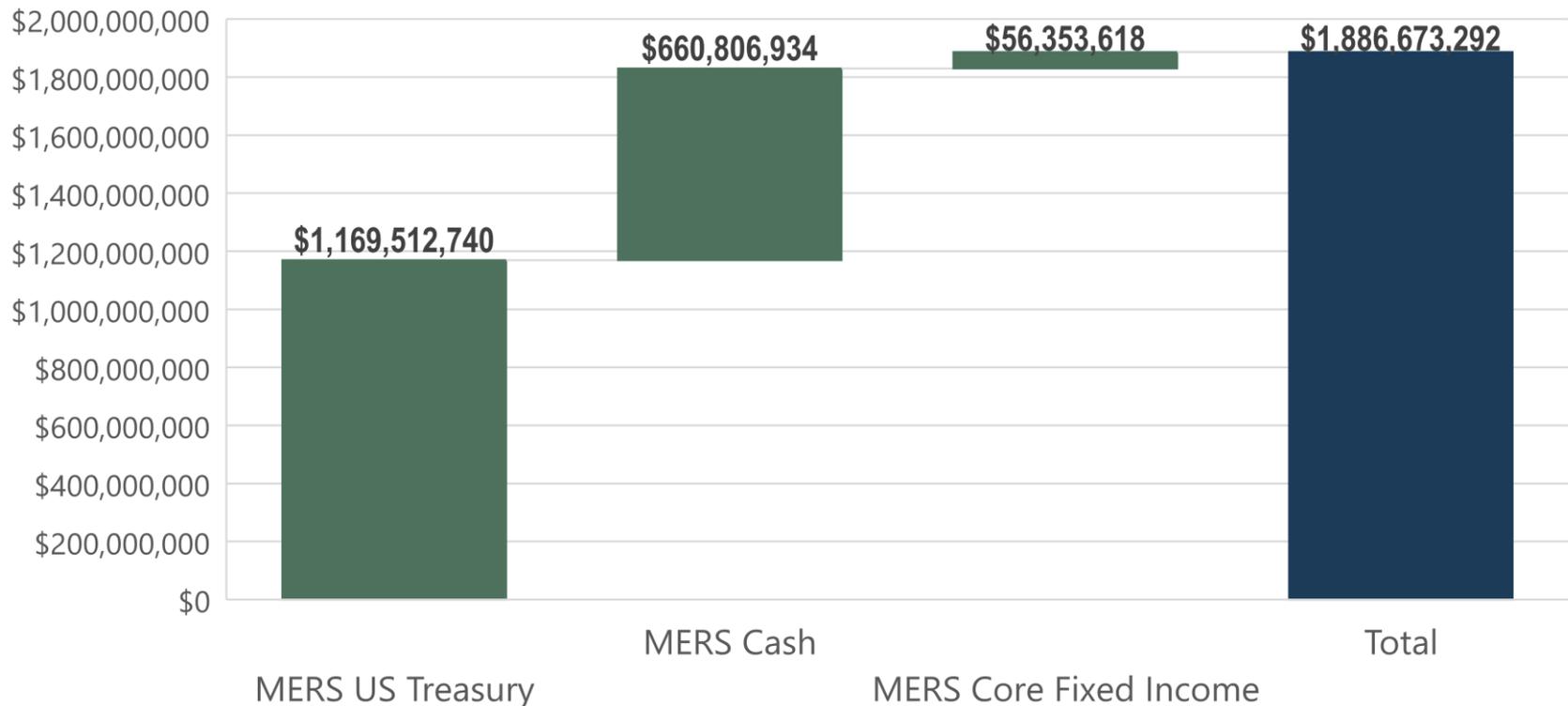
	April	May	June	Q2	Q2 Universe
MERS' Portfolio (Gross)	6.65%	1.93%	2.07%	10.97%	36 th Percentile
Policy Benchmark	8.24%	3.28%	2.16%	14.20%	8 th Percentile
Excess	-1.59%	-1.35%	-0.09%	-3.23%	

- From peak to trough (February 19 to March 23) the portfolio outperformed the benchmark by over 500 bps
- After rebalance was complete in April, MERS was ranked in the **24th** percentile nationally in returns

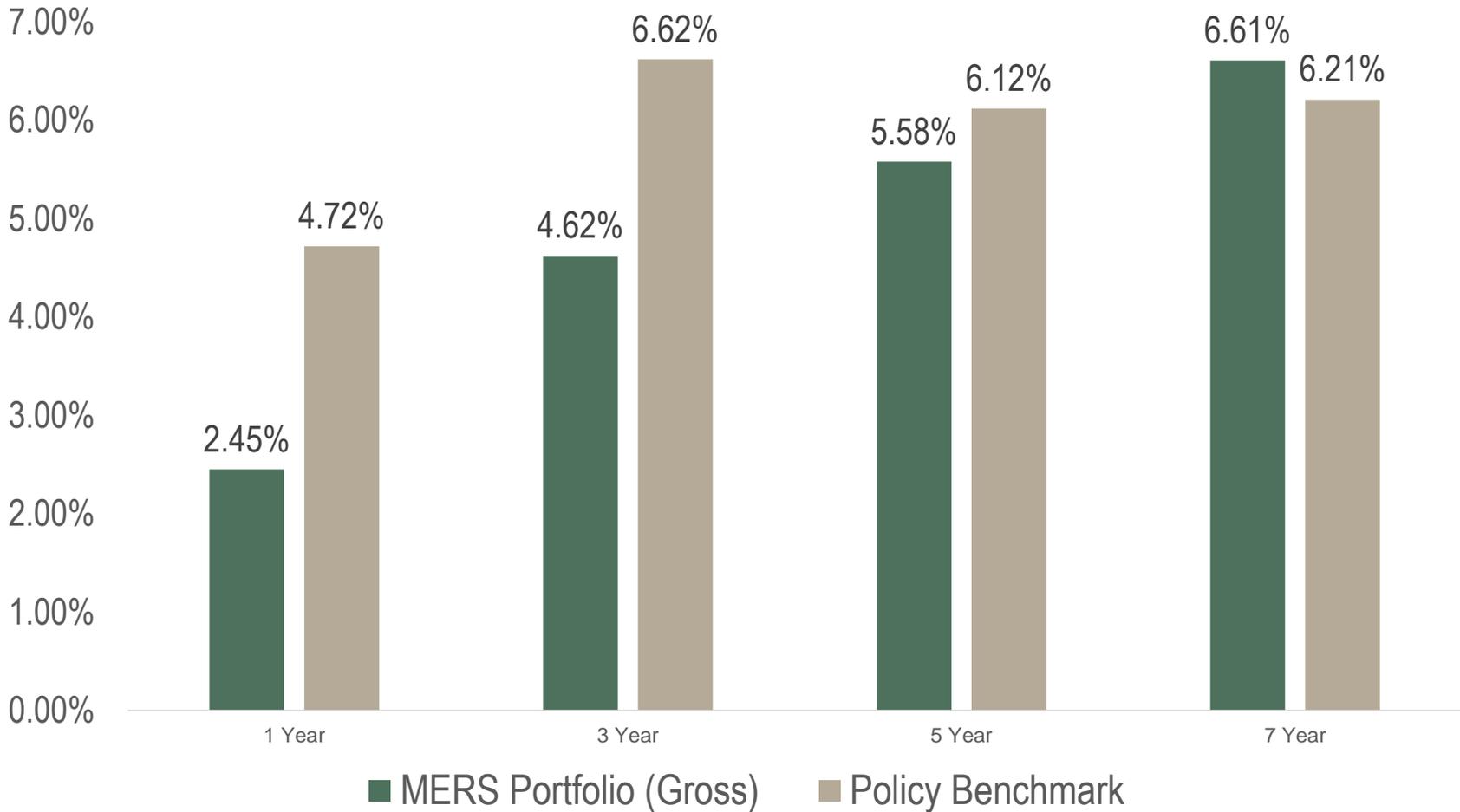
Current Liquidity

MERS still has just under \$2B (18% of fund) in liquidity available for rebalancing and pension payments

MERS Liquidity Waterfall as of June 30, 2020

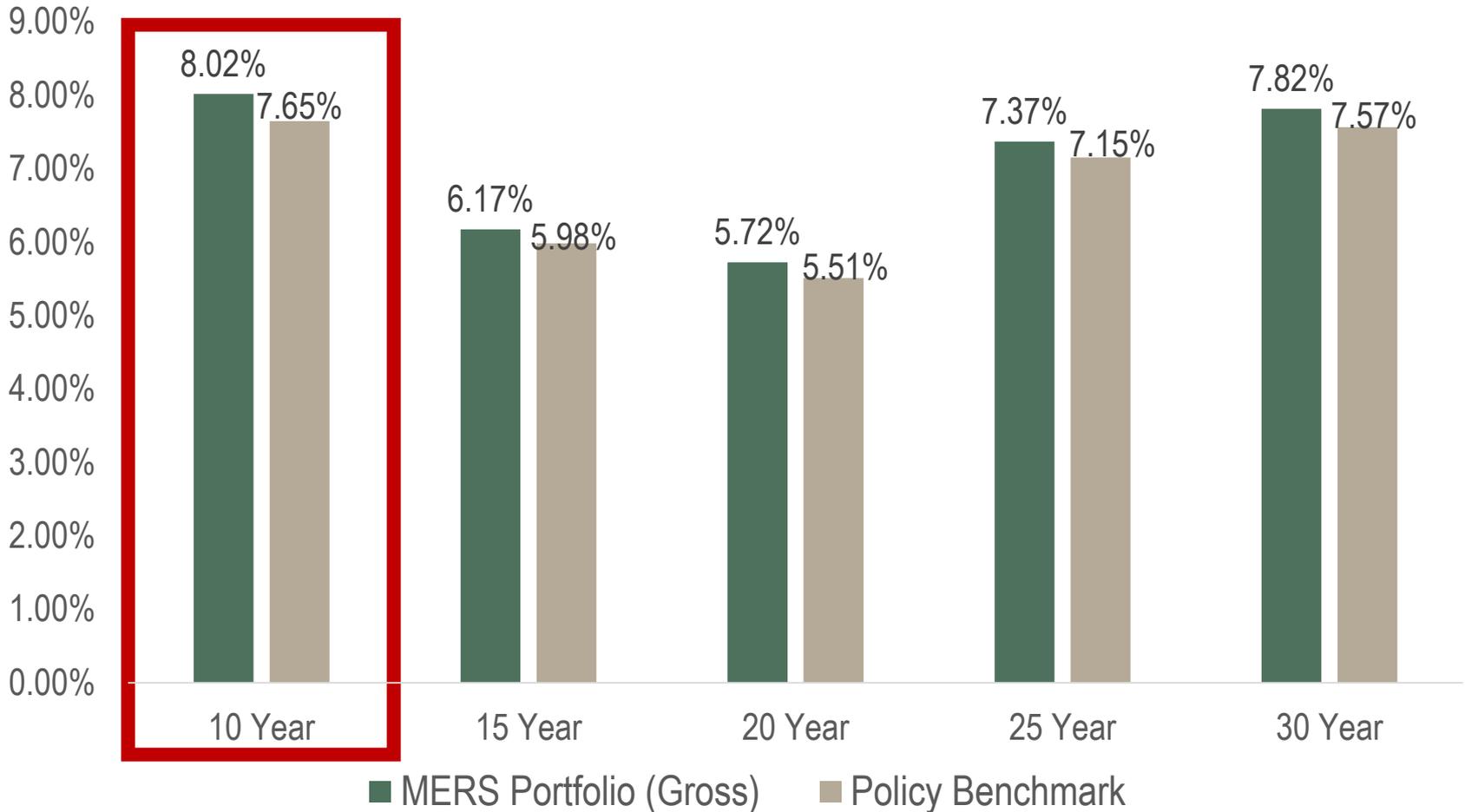


Medium-Term Performance Summary

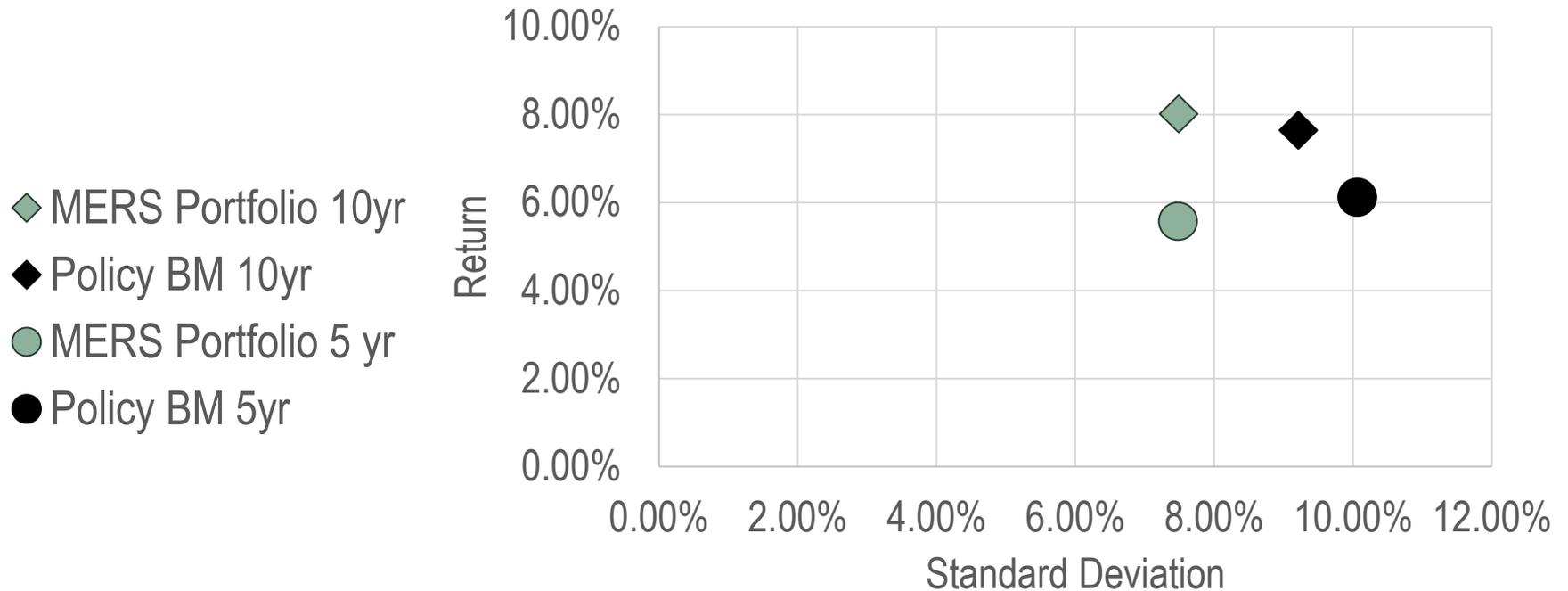


As of 06/30/2020

Long-Term Performance Summary



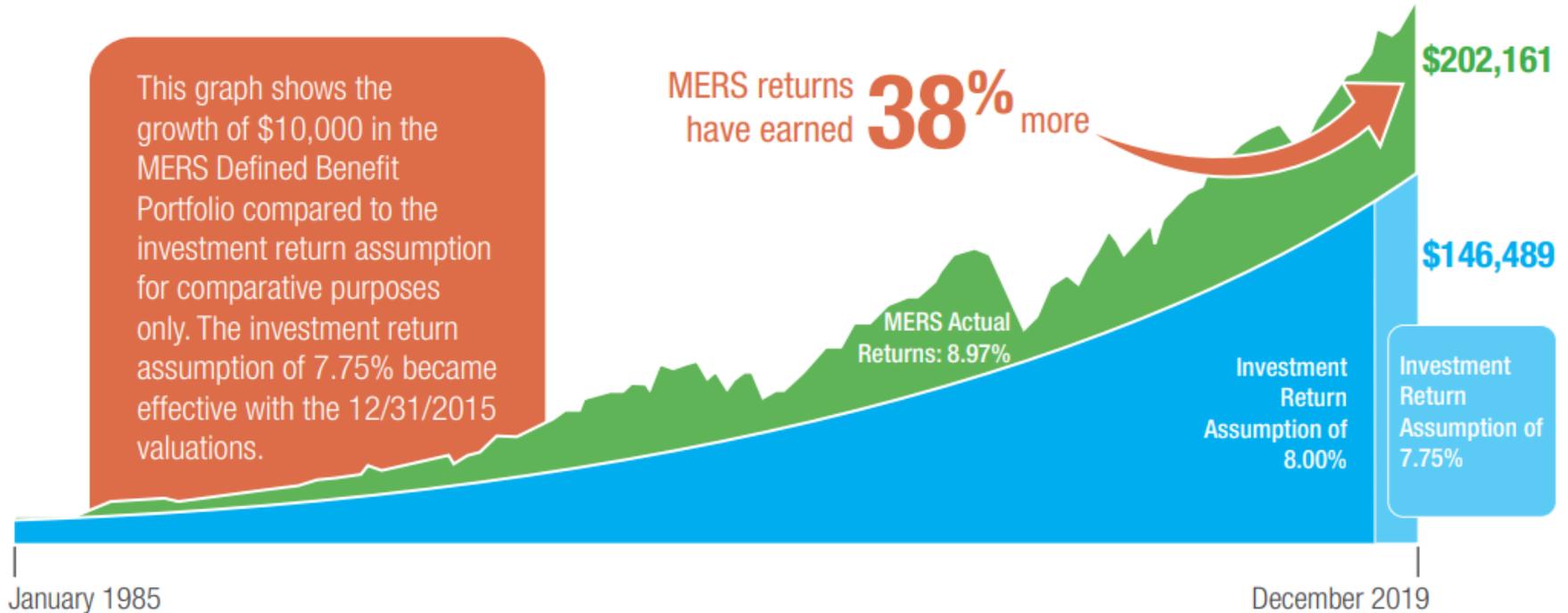
Risk/Return Metrics



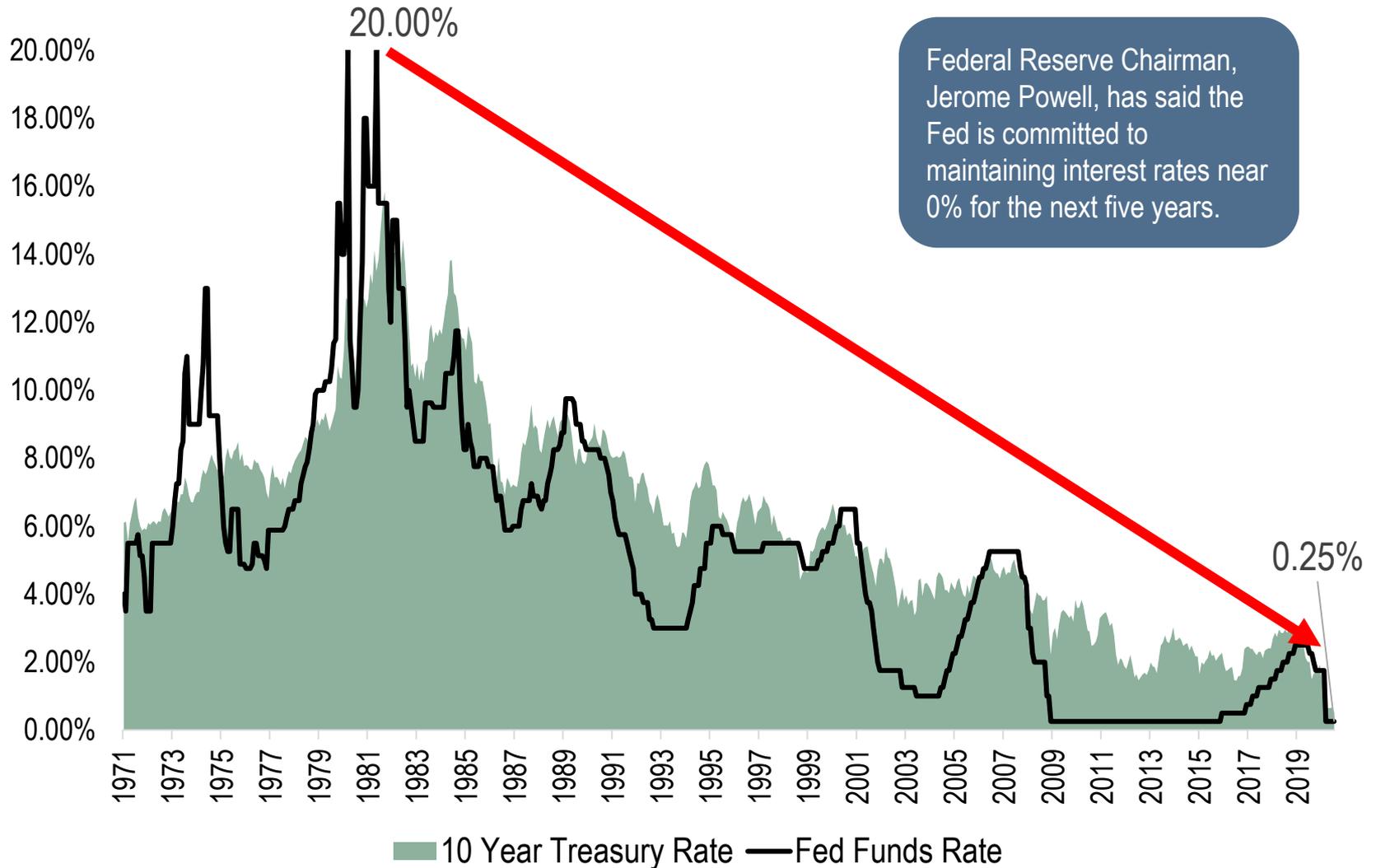
	Return	Standard Deviation	Downside Risk	Beta	Sharpe Ratio
MERS Portfolio 10yr	8.02%	7.49%	5.58%	0.78	0.99
Policy BM 10yr	7.65%	9.21%	6.80%	1.00	0.76

Long-Term Investment Returns

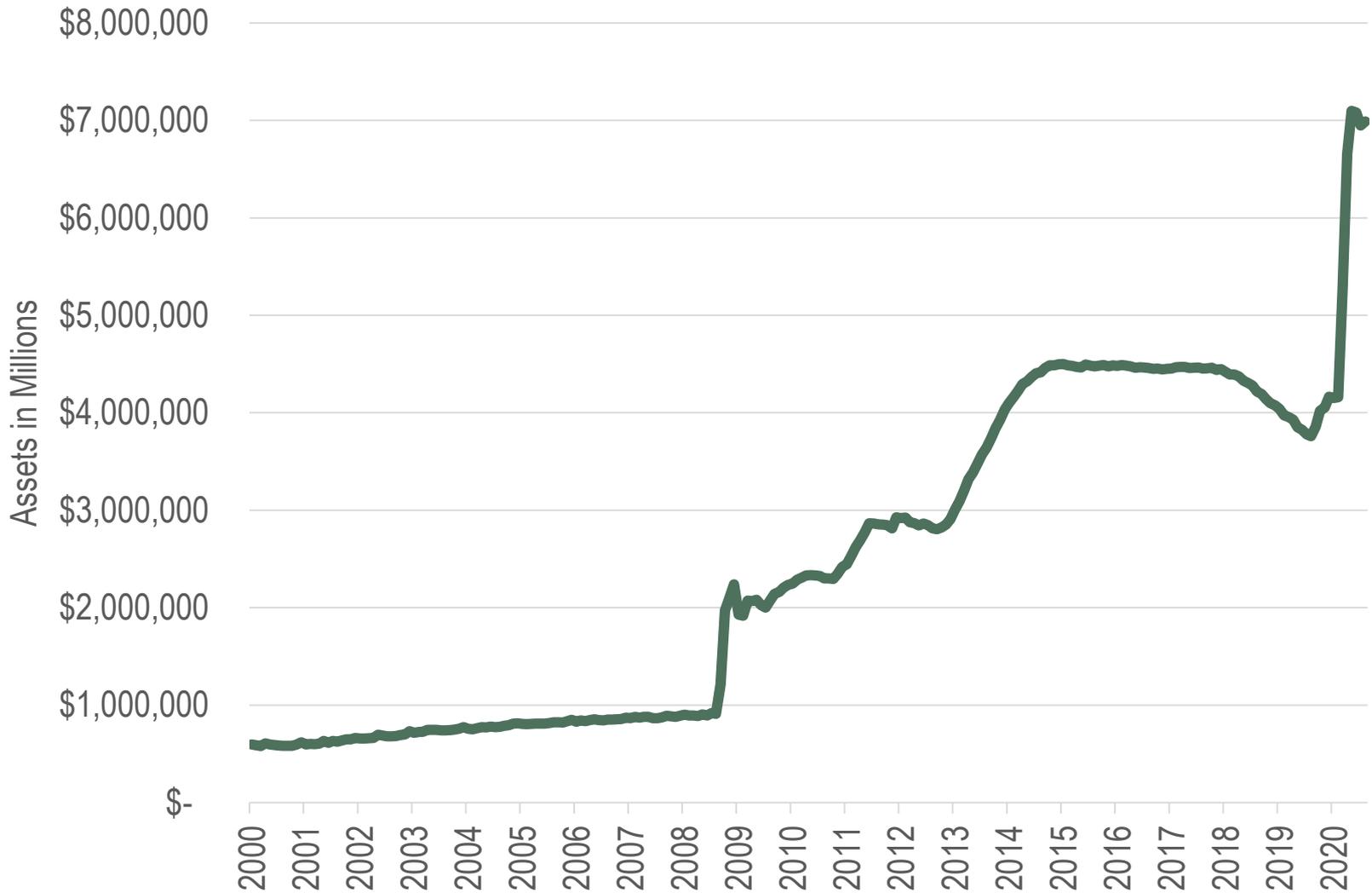
Actual returns have outperformed the actuarial assumption



U.S. Interest Rates

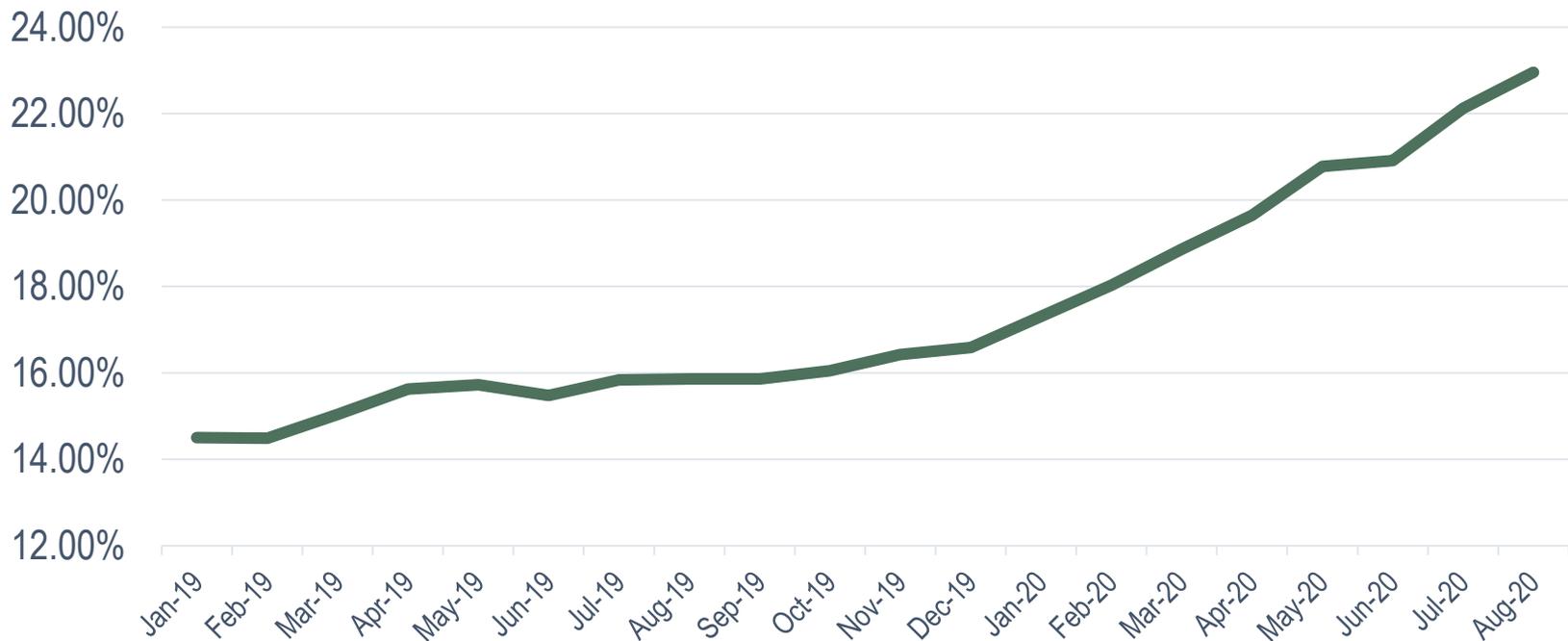


Federal Reserve Balance Sheet Total Assets



Current Top Five Weights in S&P 500

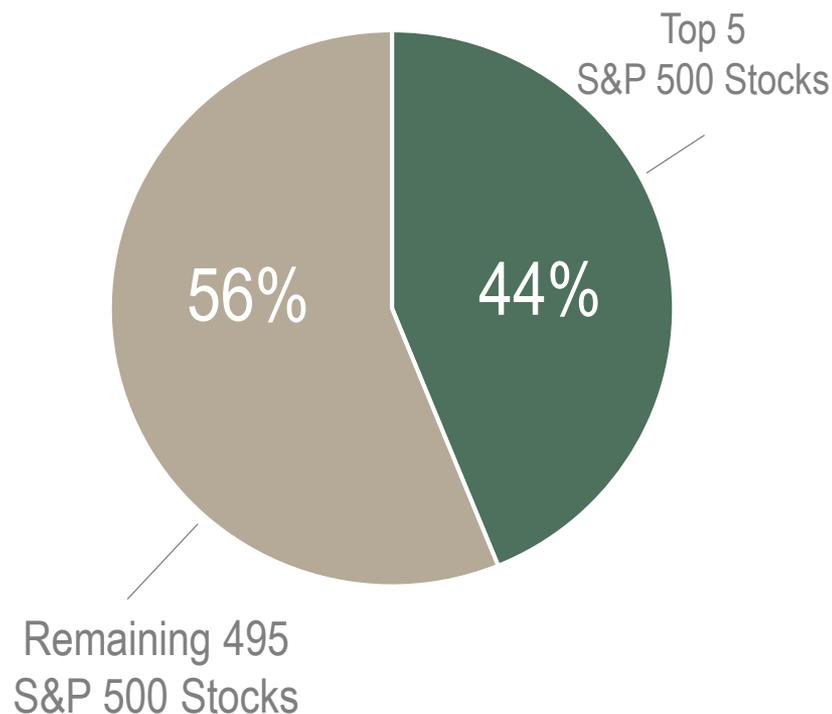
- Since the start of 2019, we have seen an increase of the weights of the largest five stocks currently in the S&P 500
- **Apple, Microsoft, Amazon, Facebook and Alphabet** make up a staggering **23%** of the entire S&P 500



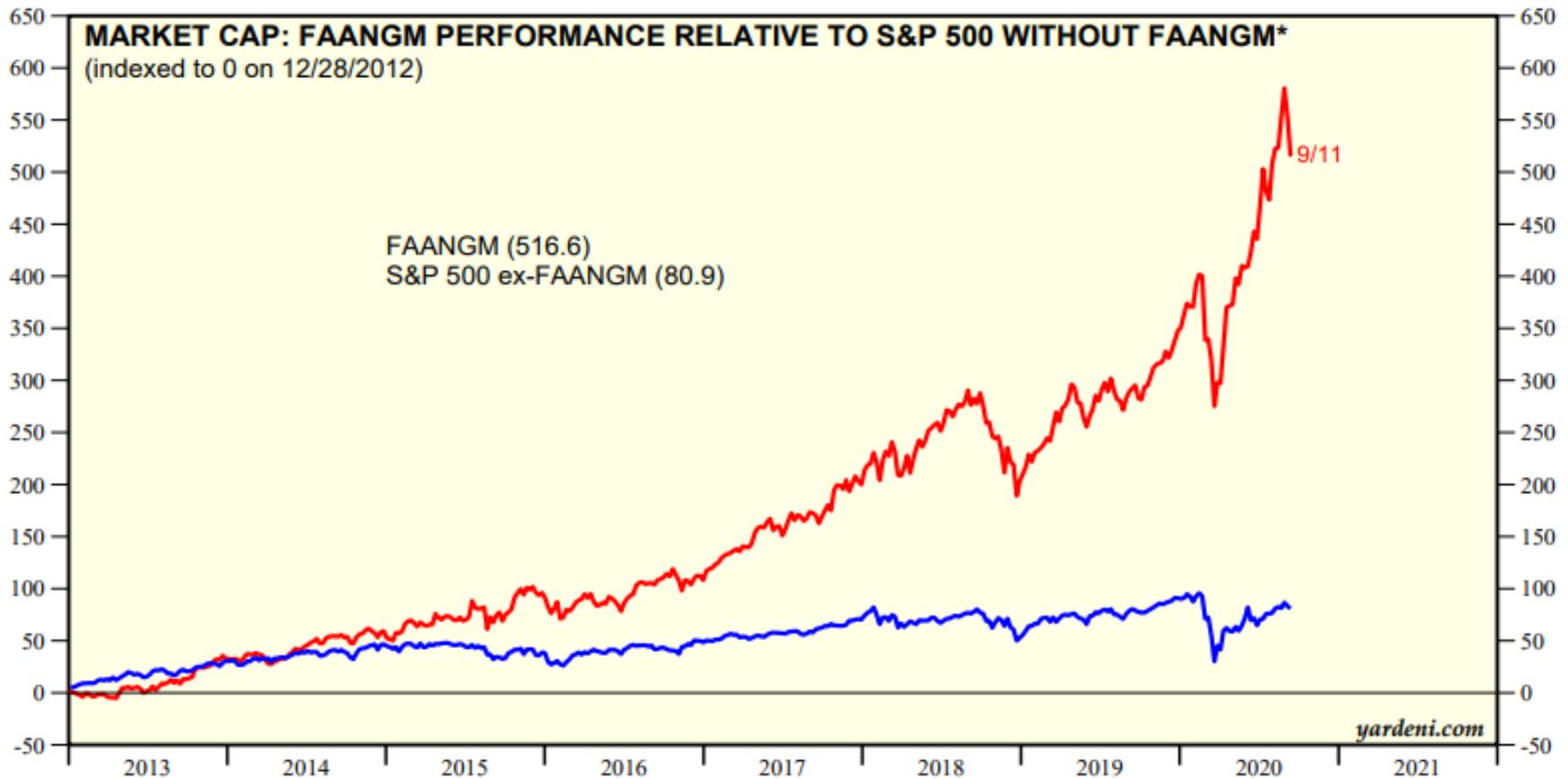
The Undiversified S&P 500

- Since the start of 2019, Apple, Microsoft, Amazon, Facebook, and Alphabet accounted for 44% of the S&P 500's return
- While the S&P 500 index was intended to be a diversified mix of large cap stocks, five names driving nearly half of the returns shows it really isn't diverse
- A truly diversified portfolio would have underperformed the S&P 500 due to this concentration in these five companies
- We do not expect this trend to continue

S&P 500 Return Composition



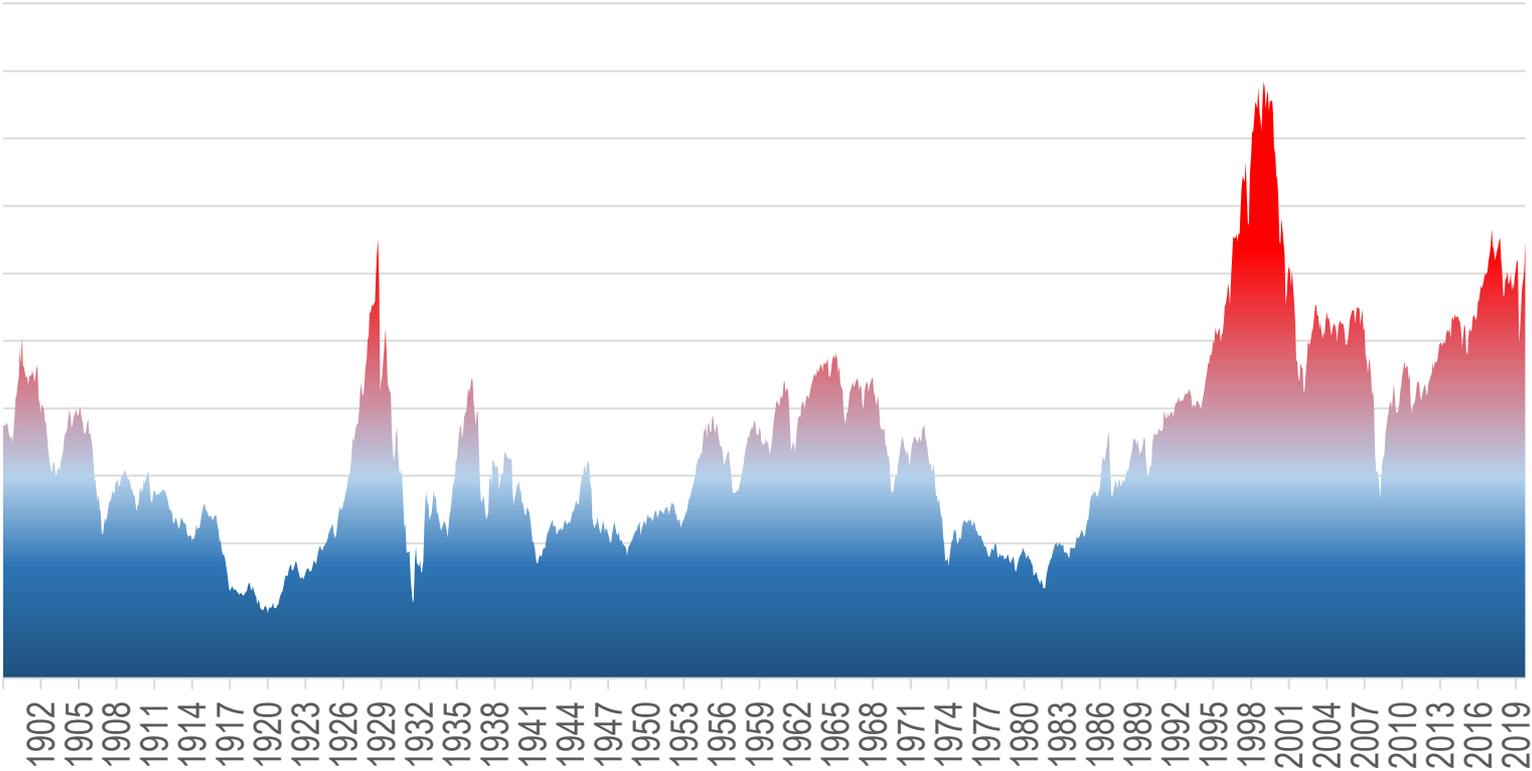
FAANGM Performance



* FAANGM stocks include Facebook, Amazon, Apple, Netflix, Google (Alphabet), and Microsoft. Both classes of Alphabet are included.
Source: Standard & Poor's and Yardeni Research Inc.

Stock Market Valuation

Stock Market Valuation Since 1900



 Cyclically Adjusted Price to Earnings Ratio

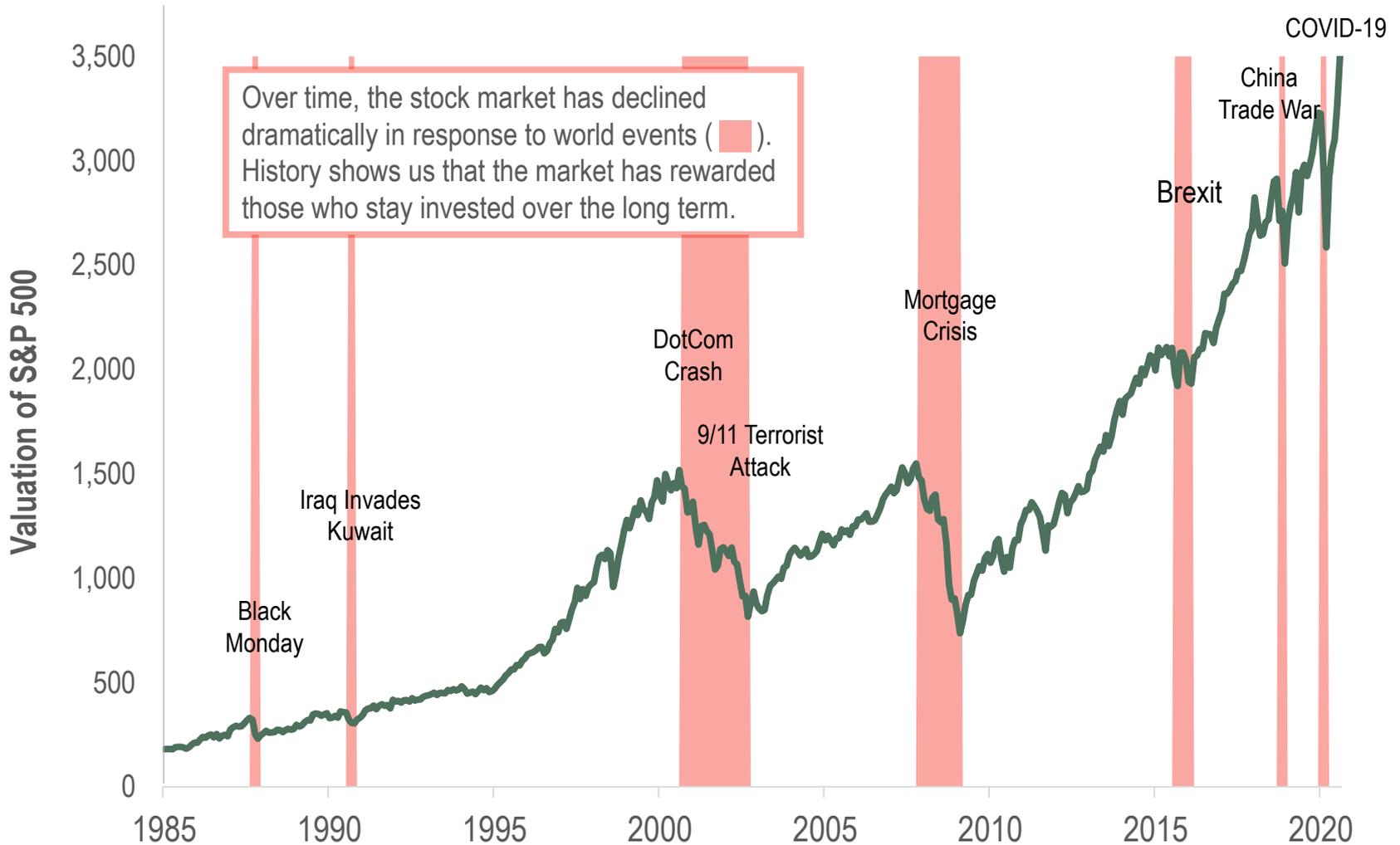
As of 8/31/2020

Portfolio Diversification

Table of Investment Returns Including MERS Defined Benefit with Asset Classes (2000-2019)

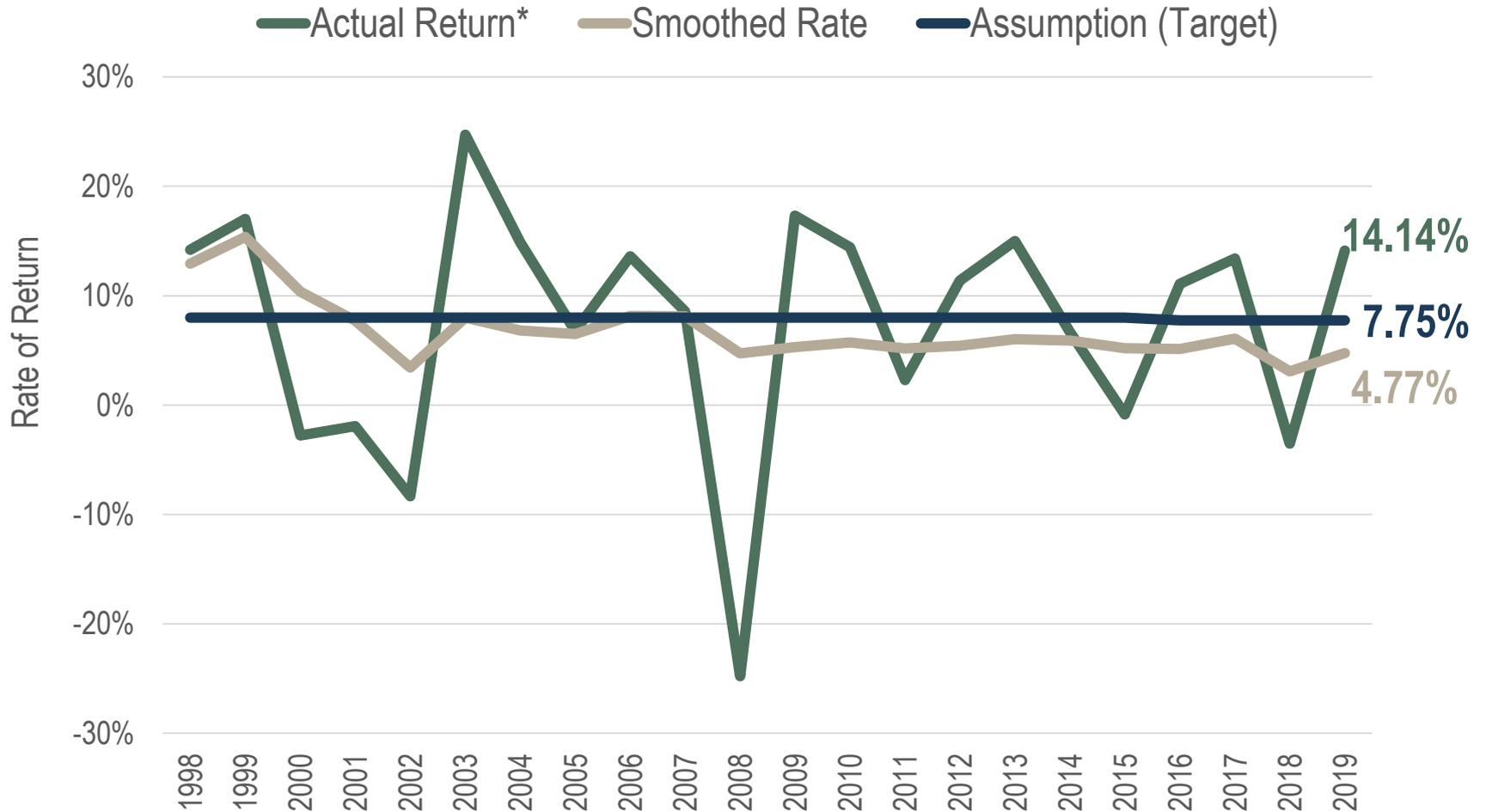
2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Real Estate	U.S. Fixed Income	Gbl ex-U.S. Fixed	Emerging Market Equity	Real Estate	Emerging Market Equity	Real Estate	Emerging Market Equity	U.S. Fixed Income	Emerging Market Equity	Small Cap Equity	U.S. Fixed Income	Real Estate	Small Cap Equity	Real Estate	Large Cap Equity	Small Cap Equity	Emerging Market Equity	Cash Equivalent	Large Cap Equity
13.84%	8.43%	22.37%	55.82%	37.96%	34.00%	42.12%	39.38%	5.24%	78.51%	26.85%	7.84%	27.73%	38.82%	15.02%	1.38%	21.31%	37.28%	1.87%	31.49%
U.S. Fixed Income	High Yield	U.S. Fixed Income	Small Cap Equity	Emerging Market Equity	Real Estate	Emerging Market Equity	Dev ex-U.S. Equity	Gbl ex-U.S. Fixed	High Yield	Real Estate	High Yield	Emerging Market Equity	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Dev ex-U.S. Equity	U.S. Fixed Income	U.S. Fixed Income
11.63%	5.28%	10.26%	47.25%	25.55%	15.35%	32.17%	12.44%	4.39%	58.21%	19.63%	4.98%	18.23%	32.39%	13.65%	0.55%	17.13%	24.21%	0.01%	25.52%
Cash Equivalent	Cash Equivalent	Real Estate	Real Estate	Dev ex-U.S. Equity	Dev ex-U.S. Equity	Dev ex-U.S. Equity	Gbl ex-U.S. Fixed	Cash Equivalent	Real Estate	Emerging Market Equity	Gbl ex-U.S. Fixed	Dev ex-U.S. Equity	Dev ex-U.S. Equity	MERS Defined Benefit	Cash Equivalent	Large Cap Equity	Large Cap Equity	High Yield	Dev ex-U.S. Equity
6.18%	4.42%	2.82%	40.69%	20.38%	14.47%	25.71%	11.03%	2.06%	37.13%	18.88%	4.36%	16.41%	21.02%	6.68%	0.05%	11.96%	21.83%	-2.08%	22.49%
MERS Defined Benefit	Small Cap Equity	Cash Equivalent	Dev ex-U.S. Equity	Small Cap Equity	MERS Defined Benefit	Small Cap Equity	MERS Defined Benefit	MERS Defined Benefit	Dev ex-U.S. Equity	High Yield	MERS Defined Benefit	Small Cap Equity	MERS Defined Benefit	U.S. Fixed Income	Real Estate	Emerging Market Equity	Small Cap Equity	Gbl ex-U.S. Fixed	Real Estate
-2.76%	2.49%	1.78%	39.42%	18.33%	6.78%	18.37%	8.56%	-24.79%	33.67%	15.12%	2.30%	16.35%	15.00%	5.97%	-0.79%	11.19%	14.65%	-2.15%	21.91%
Small Cap Equity	MERS Defined Benefit	High Yield	High Yield	MERS Defined Benefit	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Small Cap Equity	Large Cap Equity	Large Cap Equity	Large Cap Equity	High Yield	Small Cap Equity	MERS Defined Benefit	MERS Defined Benefit	MERS Defined Benefit	MERS Defined Benefit	Emerging Market Equity
-3.02%	-1.91%	-1.37%	28.97%	14.90%	4.91%	15.79%	6.97%	-26.16%	27.17%	15.06%	2.11%	16.00%	7.44%	4.89%	-0.85%	11.10%	13.40%	-3.51%	18.44%
Gbl ex-U.S. Fixed	Emerging Market Equity	Emerging Market Equity	Large Cap Equity	Gbl ex-U.S. Fixed	Small Cap Equity	MERS Defined Benefit	Large Cap Equity	Small Cap Equity	Large Cap Equity	MERS Defined Benefit	Cash Equivalent	High Yield	Real Estate	High Yield	Dev ex-U.S. Equity	Real Estate	Gbl ex-U.S. Fixed	Large Cap Equity	High Yield
-3.91%	-2.61%	-6.16%	28.68%	12.54%	4.55%	13.61%	5.49%	-33.79%	26.47%	14.43%	0.10%	15.81%	3.67%	2.45%	-3.04%	4.06%	10.51%	-4.38%	14.32%
High Yield	Gbl ex-U.S. Fixed	MERS Defined Benefit	MERS Defined Benefit	High Yield	Cash Equivalent	High Yield	Cash Equivalent	Large Cap Equity	MERS Defined Benefit	Dev ex-U.S. Equity	Small Cap Equity	MERS Defined Benefit	Cash Equivalent	Cash Equivalent	Small Cap Equity	Dev ex-U.S. Equity	Real Estate	Real Estate	MERS Defined Benefit
5.66%	-3.75%	-8.34%	24.72%	11.13%	3.07%	11.85%	5.00%	-37.00%	17.31%	8.95%	-4.18%	11.39%	0.07%	0.03%	-4.41%	2.75%	10.36%	-5.63%	14.14%
Large Cap Equity	Real Estate	Dev ex-U.S. Equity	Gbl ex-U.S. Fixed	Large Cap Equity	High Yield	Gbl ex-U.S. Fixed	High Yield	Dev ex-U.S. Equity	Gbl ex-U.S. Fixed	U.S. Fixed Income	Real Estate	U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	High Yield	U.S. Fixed Income	High Yield	Small Cap Equity	U.S. Fixed Income
-9.11%	-3.81%	-15.80%	19.36%	10.88%	2.74%	8.16%	1.87%	-43.56%	7.53%	6.54%	-6.46%	4.21%	-2.02%	-2.19%	-4.47%	2.65%	7.50%	-11.01%	8.72%
Dev ex-U.S. Equity	Large Cap Equity	Small Cap Equity	U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	Cash Equivalent	Small Cap Equity	Real Estate	U.S. Fixed Income	Gbl ex-U.S. Fixed	Dev ex-U.S. Equity	Gbl ex-U.S. Fixed	Emerging Market Equity	Gbl ex-U.S. Fixed	Gbl ex-U.S. Fixed	Gbl ex-U.S. Fixed	U.S. Fixed Income	Dev ex-U.S. Equity	Gbl ex-U.S. Fixed
-13.33%	-11.89%	-20.48%	4.10%	4.34%	2.43%	4.85%	-1.57%	-48.21%	5.93%	4.95%	-12.21%	4.09%	-2.60%	-3.09%	-6.02%	1.49%	3.54%	-14.09%	5.09%
Dev ex-U.S. Equity	Large Cap Equity	Cash Equivalent	Cash Equivalent	Cash Equivalent	Gbl ex-U.S. Fixed	U.S. Fixed Income	Real Estate	Emerging Market Equity	Cash Equivalent	Cash Equivalent	Emerging Market Equity	Cash Equivalent	Gbl ex-U.S. Fixed	Dev ex-U.S. Equity	Emerging Market Equity	Cash Equivalent	Cash Equivalent	Emerging Market Equity	Cash Equivalent
-21.43%	-22.10%	15%	1.33%	-8.65%	4.33%	-7.39%	-53.33%	0.21%	0.13%	-18.42%	0.11%	-3.08%	-4.32%	-14.92%	0.33%	0.86%	-14.57%	2.28%	

Market Rebounds



Effect of Smoothing

Smoothing is a buffer against extreme fluctuations in the market



Conclusion

- MERS carefully balances risk and liquidity to **ensure that monthly pension obligations are paid**
- MERS had prepared for market volatility and thus **outperformed our market benchmarks**
- Our governance model allows MERS to **respond to market changes quickly within a prudent structure**
- MERS has succeeded in multiple market cycles through **innovation and by having an experienced team**

Contacting MERS of Michigan

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