

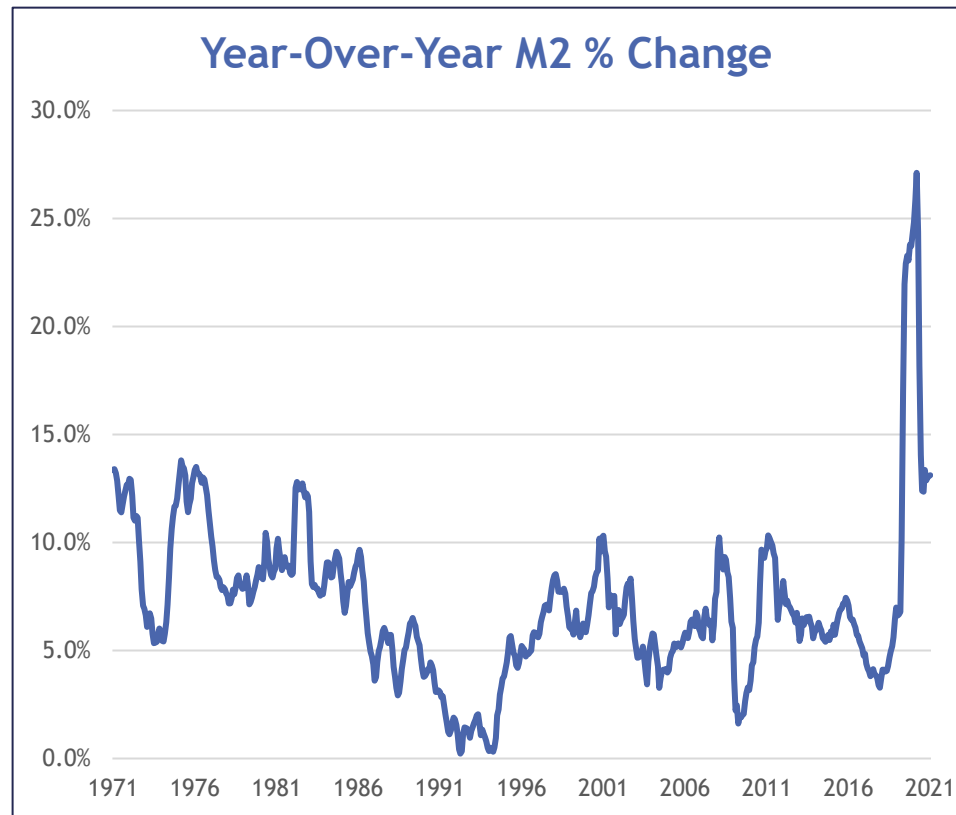
# Economic Backdrop Review

Greg Parker  
Director of Public Markets

## Unprecedented Monetary Policy

Since the beginning of the pandemic, the U.S. government has passed 5 main relief/stimulus bills totaling approximately \$4.5 trillion.

- M2 is a measure of the money supply that includes cash, checking deposits, and easily-convertible near money.
- Milton Friedman famously said, “**Inflation is always and everywhere a monetary phenomenon** in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.
- The year-over-year growth in M2 in February 2021 was roughly 4X larger than normal; a 5.5 standard deviation event.



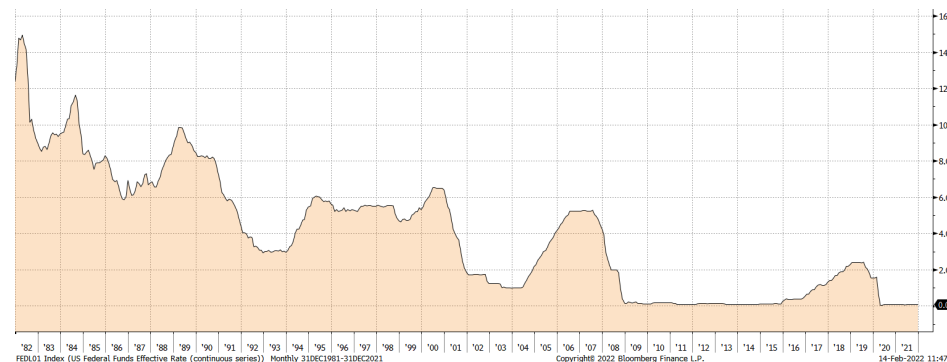
## Unprecedented Fiscal Policy

The Fed's stimulus measures fell into three basic categories: interest rate cuts, loans and asset purchases, and regulation changes.

Some highlights:

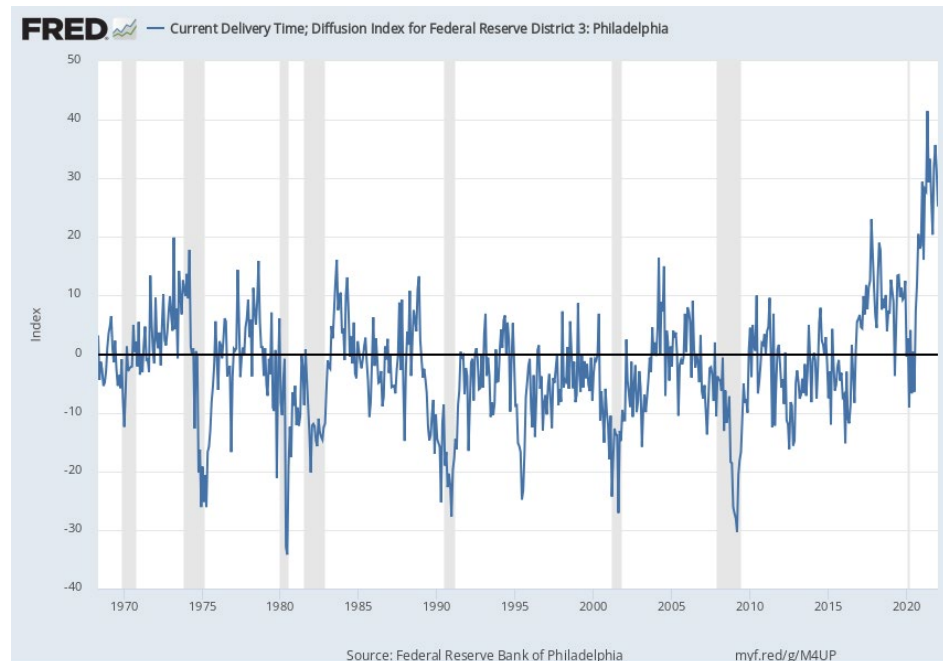
- The Fed lowered the federal funds rate twice in March 2020; once by 50 bps and a second time by 100 bps.
- The Fed performed Quantitative Easing, expanded its repo operation by \$1.5 trillion, Paycheck Protection programs, and purchased corporate bonds and ETF's
- The Fed amended some of its technical policies to hold on to less capital so it could lend more.

## Fed Funds Rate



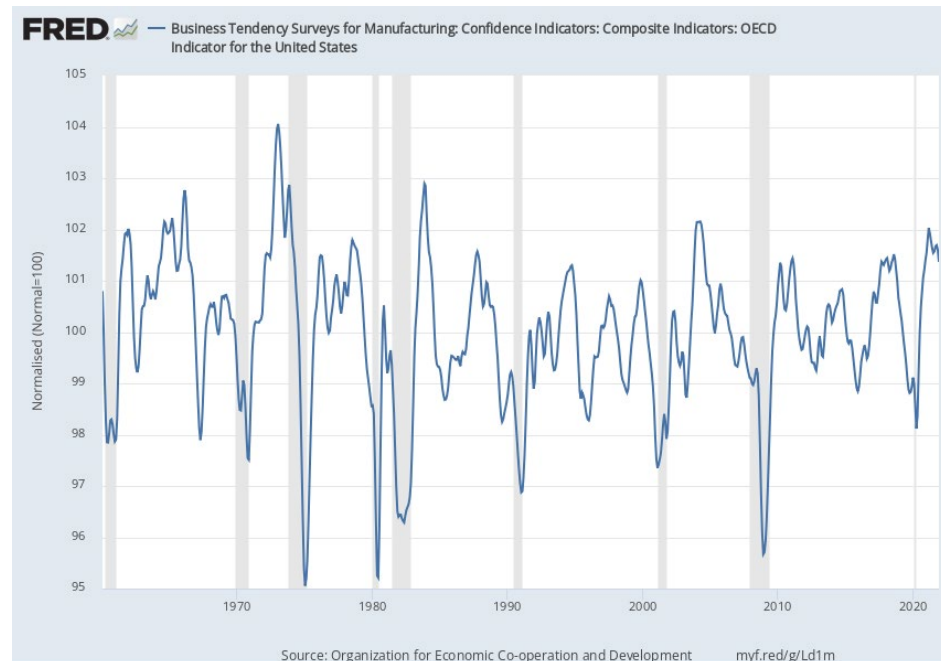
## Unprecedented Supply Chain Disruptions

- COVID illnesses and safety policies implemented created a shortage of workers, reducing production capacity.
- Changes in customer purchasing behavior; increased on-line shopping and eating at home instead of at a restaurant for example.
- Manufacturing and logistics systems are often optimized for “just in time” delivery.
- Retail inventories are at all time lows; 3.5 standard deviations below normal.
- The longer delivery times are widespread across multiple industries.



## Business Confidence

- Business confidence is certainly higher than normal, however not unprecedently so.
- This suggest that the supply disruptions are primarily supply issues and less so a demand issue.



# Summary

- ▶ There have been unprecedented monetary and fiscal policies implemented over the past few years
- ▶ Supply chains were severely impacted and continue to struggle
- ▶ These points open the question for secular inflation (persistent price increases) or transitory price increases (large market imbalances)
- ▶ IF there is inflation, will higher interest rates follow and break the secular decline in inflation and interest rates in the U.S.
- ▶ IF there is a secular change in inflation and interest rates, will equities be revalued

# Fixed Income Review

Daniel Quigley  
Senior Investment Manager

# Fixed Income Division (FID)- At a Glance

## Goals

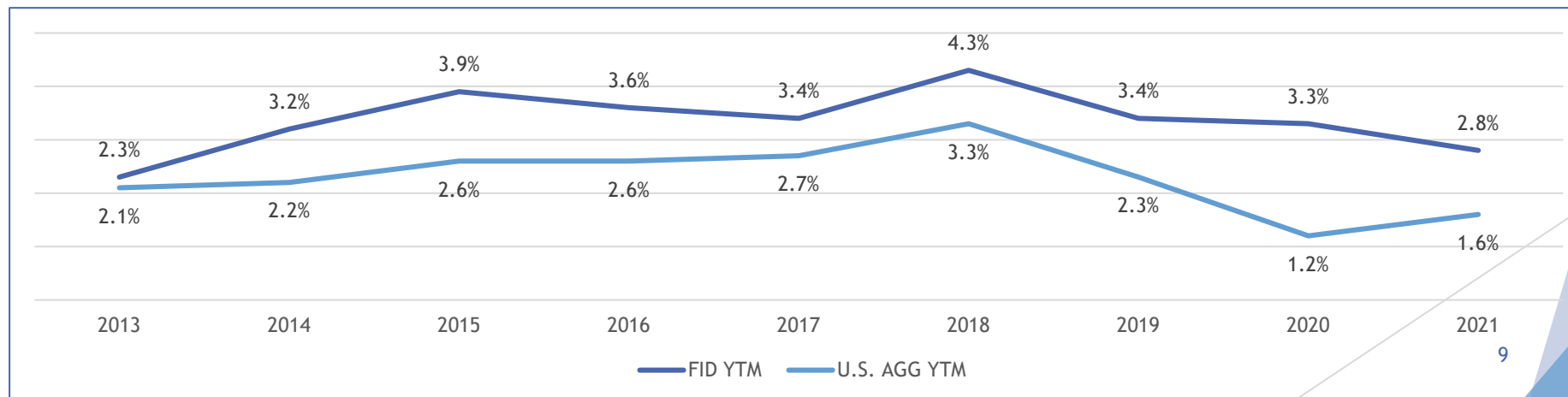
- ▶ Construct a diversified fixed income portfolio a portfolio with characteristics similar to the U.S. Aggregate benchmark Index
- ▶ Portfolio returns that match or exceed the returns of the Bloomberg U.S. Aggregate Index
- ▶ Portfolio returns that match or exceed the returns of peer Core Fixed Income Portfolios



# Fixed Income Division (FID)- At a Glance

## Portfolio Strategy

- ▶ FID utilizes a Core-Plus portfolio strategy to achieve these goals. The characteristics of the portfolio are:
  - ▶ Income
  - ▶ Liquidity
  - ▶ Principal Preservation
  - ▶ Diversification from Equity Market risk



# Fixed Income Positioning

	Weight		Yield to Maturity	Duration (Years)	Coupon		Equity Beta
Fixed Income	100%		2.8%	5.9	3.0%		0.1
Core	74%		2.3%	7.0	2.8%		0.0
Plus	26%		4.3%	2.5	3.4%		0.2
U.S. Agg Index			1.6%	6.7	2.5%		0.0

# Fixed Income Performance

MPSERS Plan (12/31/21)	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	2.1%	5.6%	4.7%	4.4%	4.1%
Benchmark Index	-1.5%	4.8%	3.6%	3.0%	2.9%
Peer Median Returns	-0.6%	5.7%	4.3%	3.7%	3.9%
Percentile Rank vs. Peers*	7	58	31	33	24

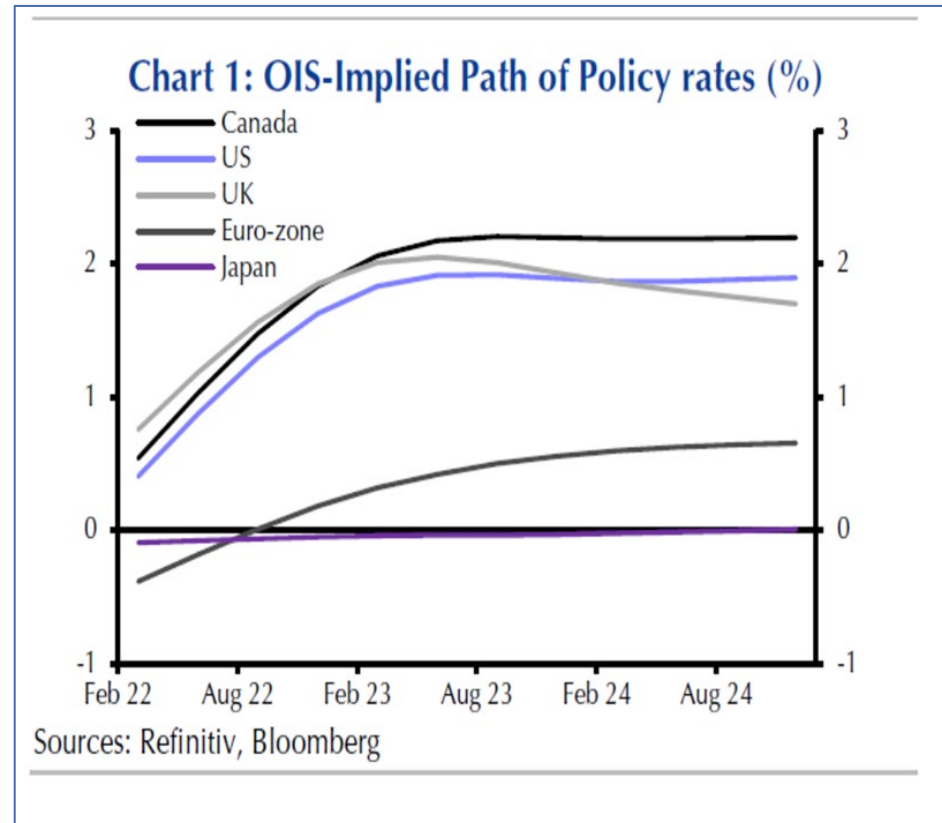
\*State Street Universe greater than \$1 billion

# FID Highlights

- Strong Performance for the Internal Core Portfolio in 2020 and 2021
  - 1-Year Core Portfolio performance of -0.4% vs -1.5% for the index
  - 3-Year Core Portfolio performance of 5.5% vs 4.8% for the index
- The External Portfolio has taken advantage of the strong performance of risk assets
  - 1-Year Plus Portfolio performance of 4.0% vs -1.5% for the index
  - 3-Year Plus Portfolio Performance of 5.2% vs 4.8% for the index
- Cash Management
  - December 31, 2021 Cash AUM:
    - Retirement Cash \$1.5 billion
    - Common Cash \$20.5 billion
  - Cash outperformance across all time periods

## FID Outlook

- Interest Rates
  - Market expecting rising rates
  - Fed Funds Rate
    - December-2021; 0.1% actual
    - December-2022; 1.6% implied
- Credit Spreads
  - Credit fundamentals are strong
  - Investment Grade
    - 92 bps December-2021
    - 129 bps 10-Year average
  - High Yield
    - 283 bps December-2021
    - 445 bps 10-Year average



# FID Outlook

## 10-Year U.S. Treasury Rate



# International Equity Review

Patrick Moraniec  
Senior Investment Manager

# International Equity Division (IED)- At a Glance

## Goals

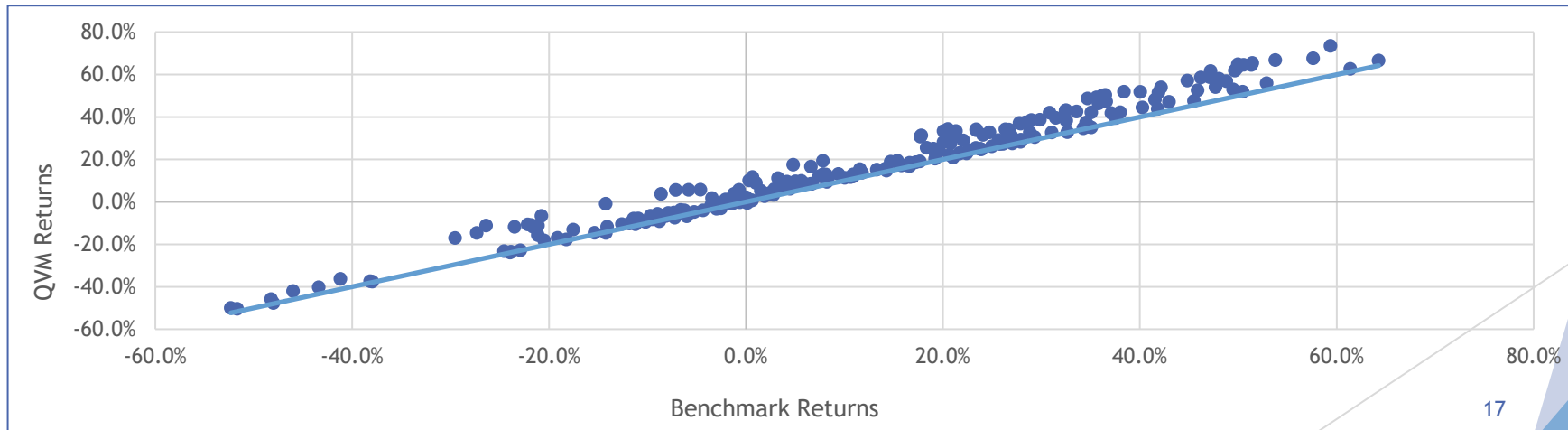
- ▶ Construct a diversified non-U.S. equity-focused portfolio with characteristics similar to the MSCI ACWI ex USA benchmark Index
- ▶ Portfolio returns that match or exceed the returns of the MSCI ACWI ex USA
- ▶ Portfolio returns that match or exceed the returns of peer broadly diversified International Equity Portfolios
- ▶ Advance people, processes, and systems to continuously improve investment decisions.



# International Equity Division (IED)- At a Glance

## Portfolio Strategy

- ▶ Allocate capital with the intention of persistent exposure to the Quality, Value and Momentum factor.
- ▶ Persistent factor exposures should create consistent, transparent, and efficient excess returns.
- ▶ Tracking error of the portfolio is approximately 1.5%, which is below the division's risk budget of 3.0%.



# International Equity Performance

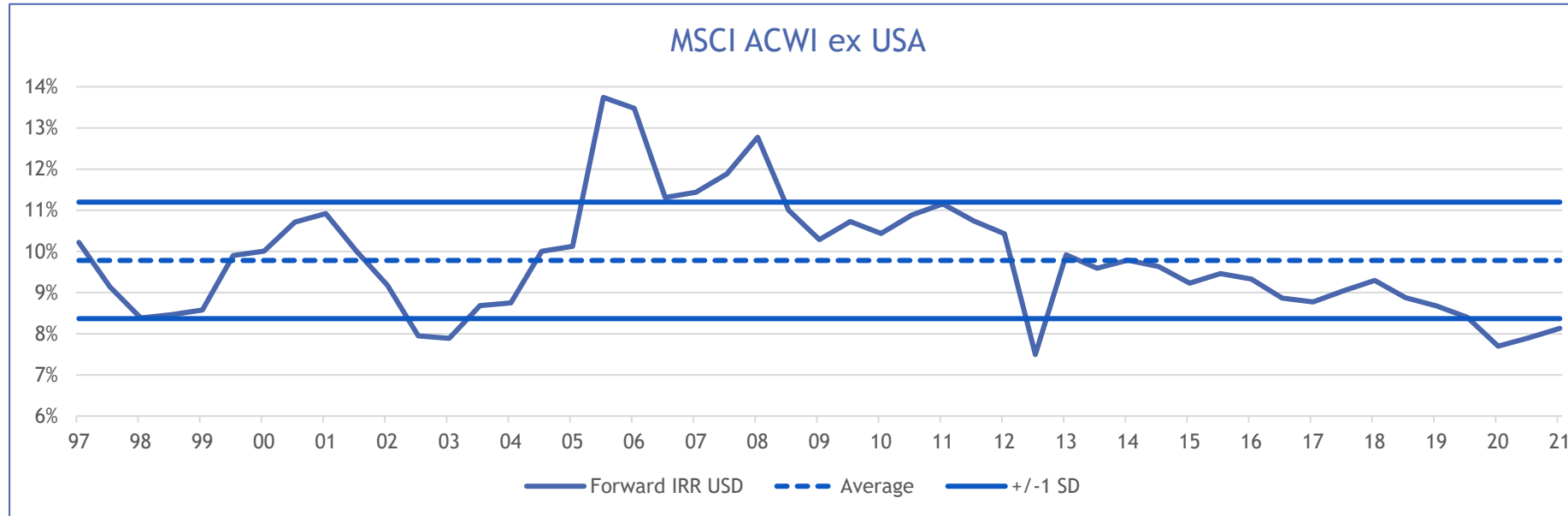
MPSERS Plan (12/31/21)	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	9.5%	15.2%	11.0%	8.0%	8.8%
Benchmark Index	7.8%	13.2%	9.6%	6.6%	7.3%
Peer Median Returns	10.3%	14.9%	10.9%	7.5%	8.7%
Percentile Rank vs. Peers*	67	45	48	34	39

\*State Street Universe greater than \$1 billion

# IED Highlights

- QVM beat the MSCI ACWI ex USA index by 2.4% in 2021. This marks the third consecutive year QVM has outperformed the benchmark.
- ▶ The QVM strategy has annualized returns of 14.1% since inception versus the benchmark's returns of 11.4%.
- ▶ The QVM outperformance has added approximately an incremental \$640 million to SMRS over the last three years.

# International Equity Division Outlook



- ▶ Forward looking returns for international stocks are still reasonable relative to fixed income at 8.1%. However, stocks are more expensive relative to history.
- ▶ Analysts' earnings per share expectations are not overly optimistic which is usually a precursor to significant market drawdowns.

# Domestic Equity Review

Jack Behar  
Senior Investment Manager

# Domestic Equity Division (DED)- At a Glance

## Goals

- ▶ Construct a diversified U.S. equity-focused portfolio with characteristics similar to the S&P 1500 benchmark Index
- ▶ Portfolio returns that match or exceed the returns of the S&P 1500
- ▶ Portfolio returns that Match or exceed the returns of peer broadly diversified Domestic Equity Portfolios
- ▶ Develop internal staff in order to ensure long term continuity, diversity of talent and future Bureau leadership.

# Domestic Equity Division (DED)- At a Glance

## Portfolio Strategy

- ▶ Utilize a low-cost lineup of internal and external managers
- ▶ Create a culture of support, inclusion, and diversity.
- ▶ Leverage insights from internal management to better select talented external managers when they need money.
- ▶ Drive excess returns through bottom-up stock and manager due diligence.
- ▶ Manage risk through portfolio modeling, maintain larger exposures to companies with a lower risk profile, and seek to own companies and managers whose results are uncorrelated to one another.
- ▶ Balance and maintain exposures to factors that have demonstrated historical outperformance; Value, Quality, Momentum and Beta.

# Domestic Equity Portfolio Strategy

	Strategic Position	Domestic Equity	S&P 1500
Market Cap. (\$ in Billions)	<i>Smaller Cap</i>	\$481.7	\$620.4
FY1 P/E	<i>Cheaper Value</i>	17.1	20.7
Return on Equity	<i>Higher Quality</i>	28.5%	17.4%
Beta	<i>Market Beta+</i>	1.07	1.00
Tracking Error		1.8%	
P/E upside to S&P 1500		21.3%	
Est. Annualized Return		10.8%	8.6%



# Domestic Equity Performance

MPSERS Plan (12/31/21)	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	25.7%	24.7%	17.9%	14.2%	16.3%
Benchmark Index	28.5%	25.6%	18.0%	14.7%	16.4%
Peer Median Returns	21.9%	20.8%	15.1%	11.8%	13.5%
Percentile Rank vs. Peers*	34	20	13	25	21

\*State Street Universe greater than \$1 billion

# DED Highlights

- Have ranked in the top third of peers over most rolling time periods
- Have outperformed the S&P 1500 index over longer term periods much of the time.
- Source of opportunity for managers; Ark Investments, Patient Capital, Emerging Manager program