



Michigan Department of
TREASURY

Engagement. Service. Improvement.

State of Michigan Investment Board Meeting

June 10, 2021

Executive Summary & Performance Review

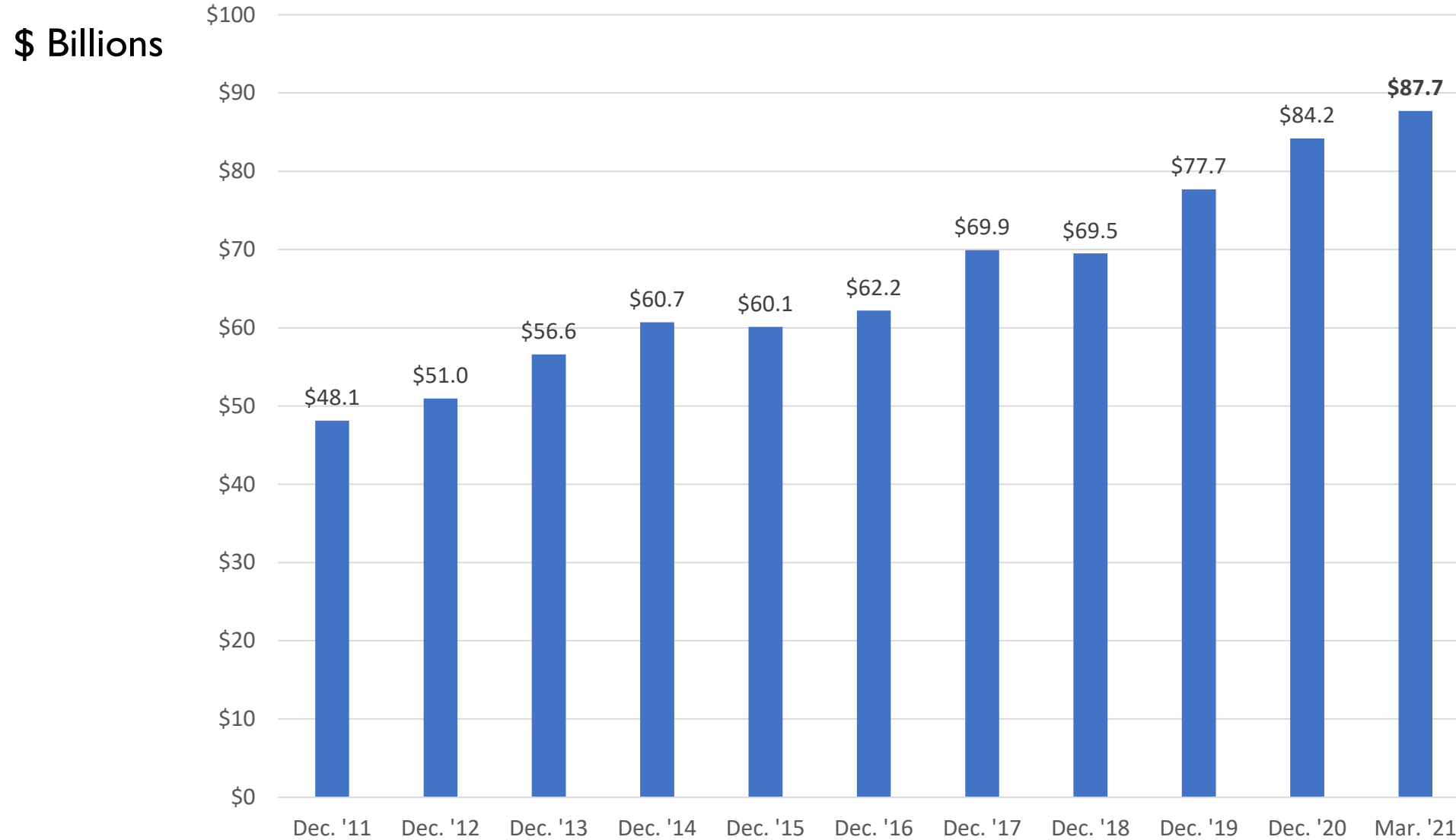
Jon M. Braeutigam
Chief Investment Officer
Bureau of Investments

Performance

MPSERS Plan 3/31/2021	1-Year	3-Year	5-Year	7-Year	10-Year
Annualized Returns	27.5%	10.7%	11.4%	9.6%	9.8%
Policy Returns	26.2%	10.8%	11.3%	9.6%	9.9%
Peer Median Returns*	30.2%	9.7%	10.3%	8.4%	8.6%
Percentile Rank Vs. Peers*	64	15	15	10	10

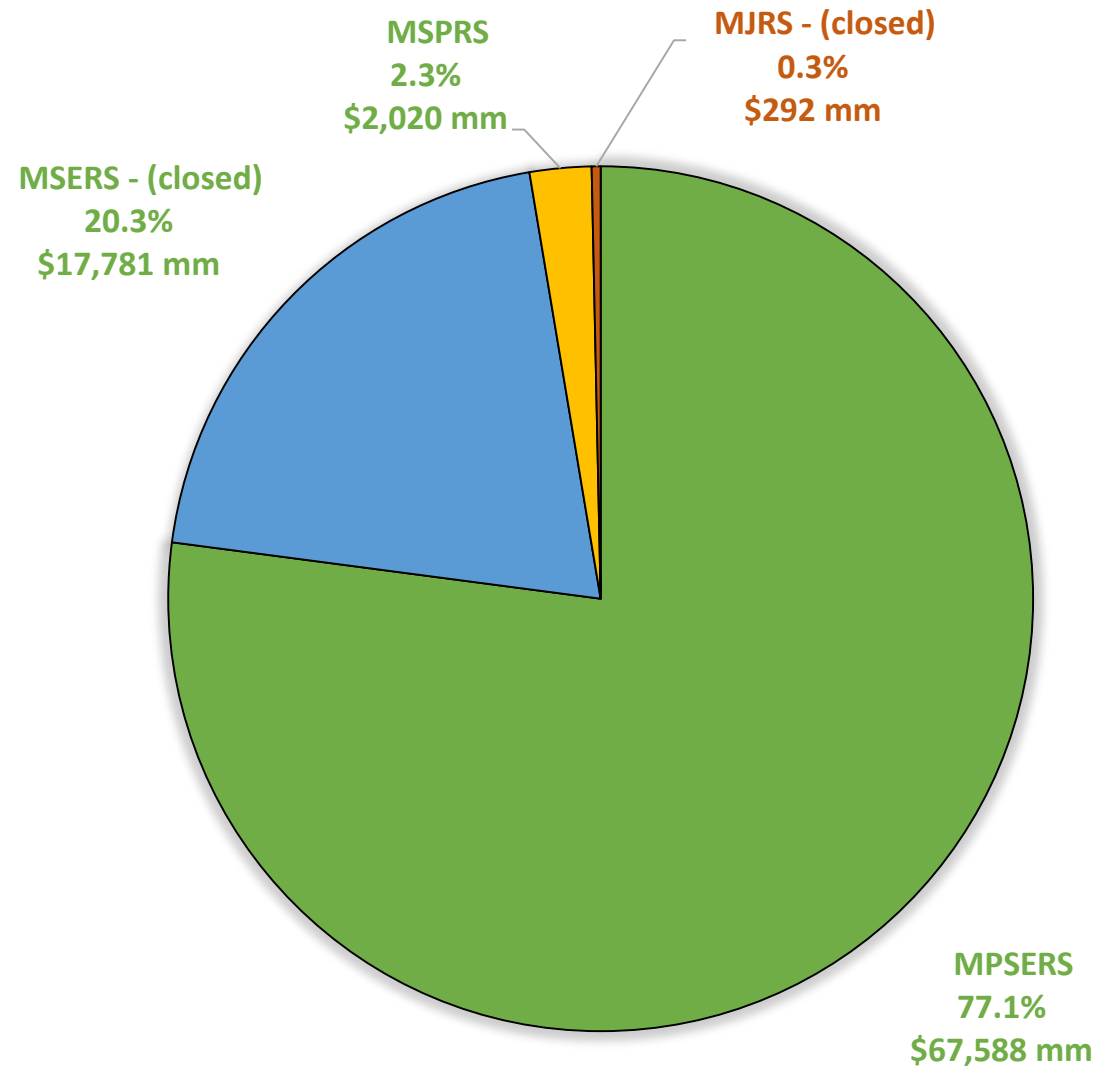
*State Street Universe greater than \$10 billion.

Market Value



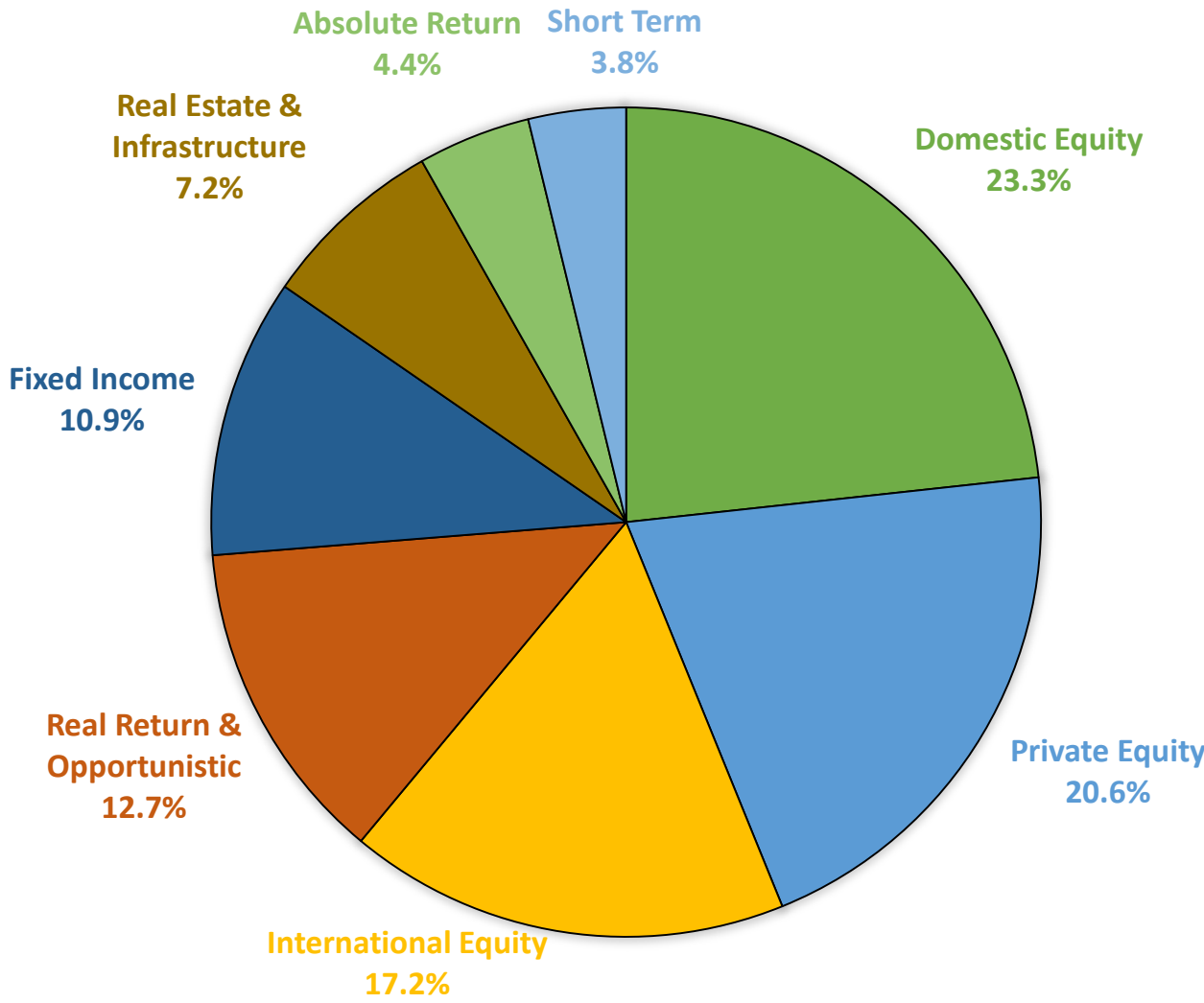
Market Value by Plan

March 31, 2021



Asset Allocation

March 31, 2021

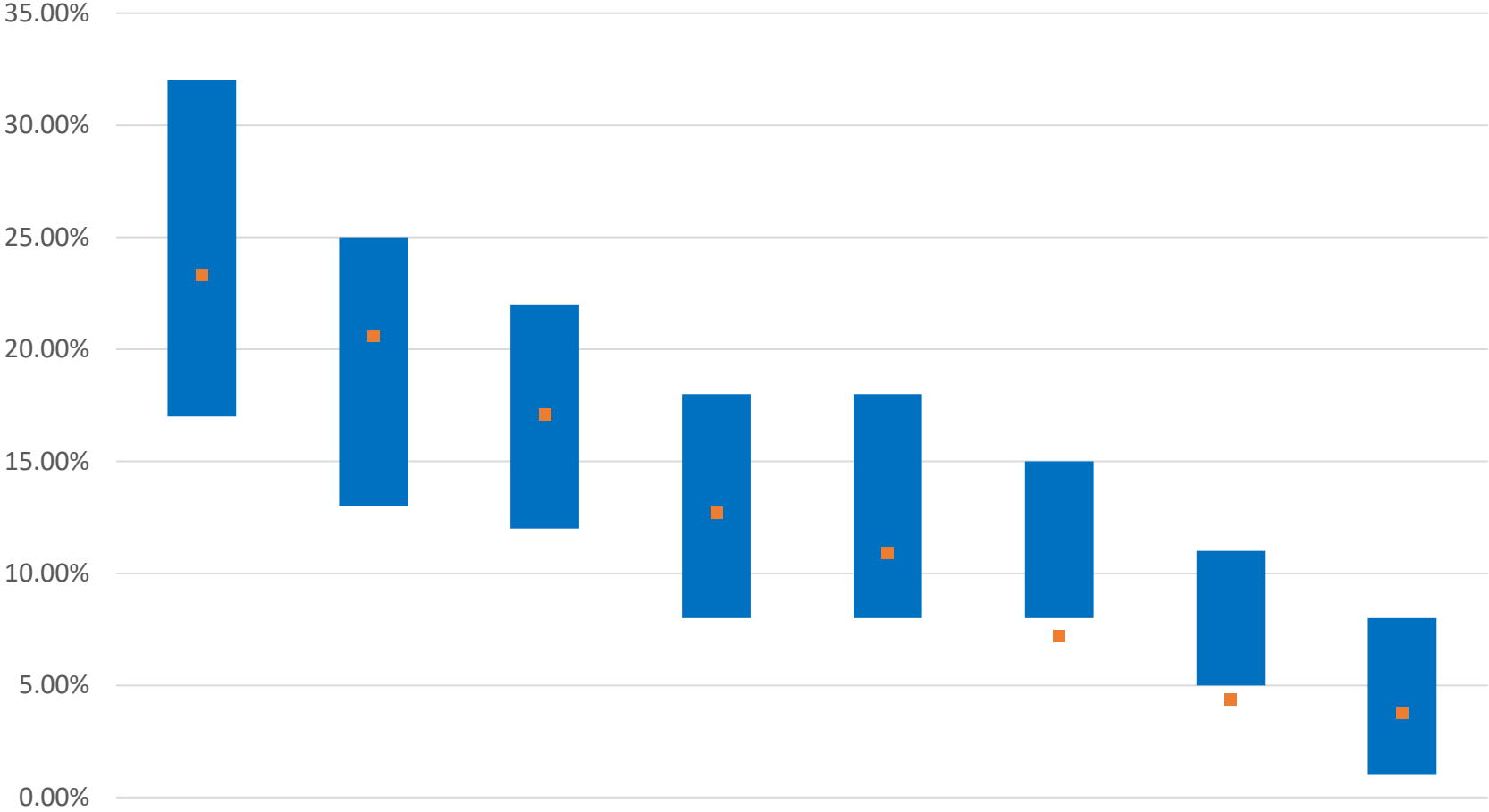


Asset Allocation Targets

Asset Allocation Targets									
	MPSERS		MSERS		MSPRS		MJRS		SMRS
Asset Class	03/31/21	Target*	03/31/21	Target*	03/31/21	Target*	03/31/21	Target*	Ranges
Domestic Equity	23.3%	25.0%	23.3%	25.0%	23.3%	25.0%	23.3%	25.0%	17%-32%
Private Equity	20.6%	16.0%	20.6%	16.0%	20.6%	16.0%	20.6%	16.0%	13%-25%
International Equity	17.1%	15.0%	17.1%	15.0%	17.1%	15.0%	17.1%	15.0%	12%-22%
Real Return & Opportunistic	12.7%	12.5%	12.7%	12.5%	12.7%	12.5%	12.7%	12.5%	8%-18%
Long Term Fixed Income	10.9%	10.5%	10.9%	10.5%	10.9%	10.5%	10.9%	10.5%	8%-18%
Real Estate & Infrastructure	7.2%	10.0%	7.2%	10.0%	7.2%	10.0%	7.2%	10.0%	8%-15%
Absolute Return	4.4%	9.0%	4.4%	9.0%	4.4%	9.0%	4.4%	9.0%	5%-11%
Short Term Fixed Income	3.8%	2.0%	3.8%	2.0%	3.8%	2.0%	3.8%	2.0%	1%-8%
Total	100.0%	100%	100%	100%	100%	100%	100%	100%	100%
*Complies with basket clause and international restrictions.									

Asset Allocation Ranges

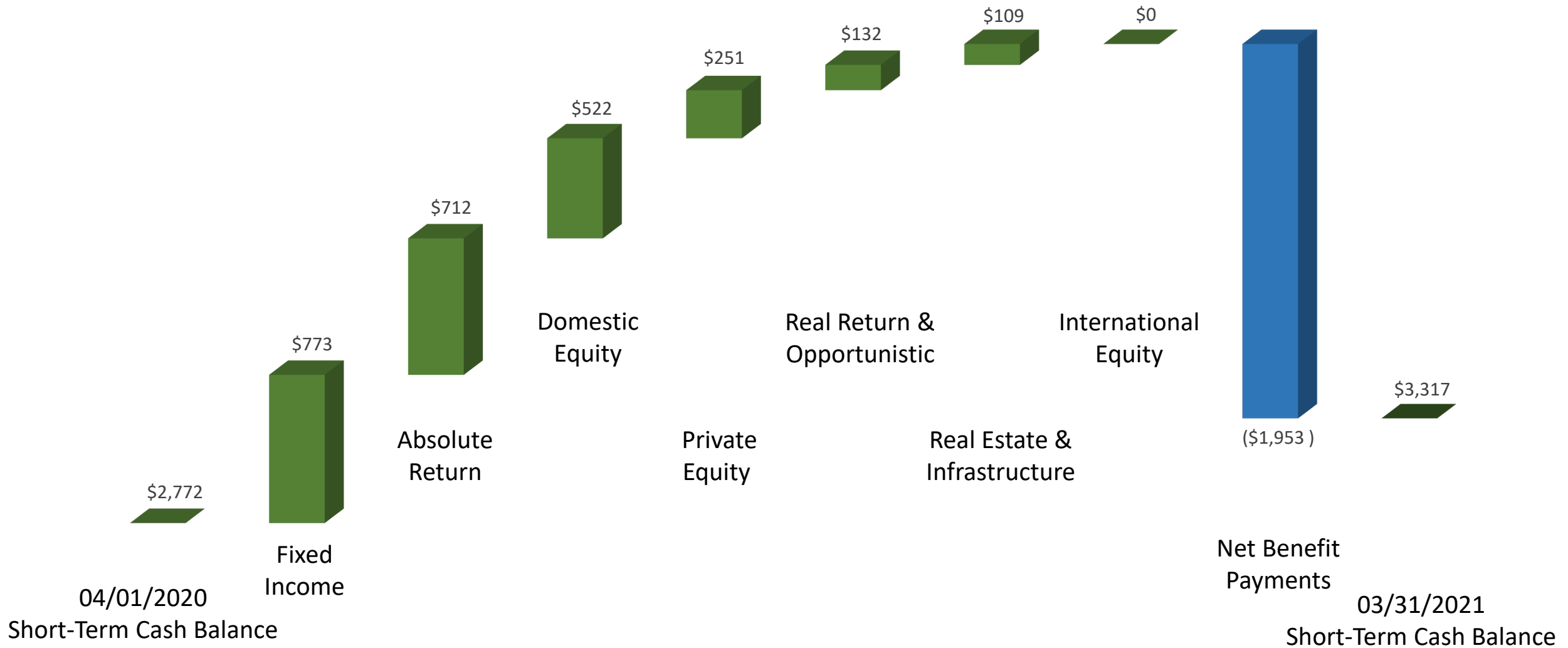
March 31, 2021



*Complies with basket clause and international restrictions.

■ MPSERS Target ■ Actual

Sources and Uses of Cash



A negative number in an asset category indicates a use of cash, a positive number indicates a source of cash. Dollars in millions

New Private Market Commitments

- 19 new commitments for the quarter
- \$1.7 billion committed for the quarter
- \$2.5 billion committed fiscal year to date
- In line with normal pacing plans

Market Review & Outlook

Gregory J. Parker, CFA
Director of Investments – Public Markets
Director of Asset Allocation
Bureau of Investments

Annual Total Returns of Key Asset Classes 2001 - 2020

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Best ↑	Corp. Bonds 10.40%	Gov't Bonds 11.50%	Int'l Equity 40.82%	Int'l Equity 20.90%	Real Estate 20.06%	Int'l Equity 26.65%	Int'l Equity 16.65%	Gov't Bonds 12.38%	Int'l Equity 41.44%	U.S. Equity 16.38%	Real Estate 14.26%	Int'l Equity 16.83%	U.S. Equity 32.80%	U.S. Equity 13.08%	Real Estate 13.32%	U.S. Equity 11.93%	Int'l Equity 27.19%	Real Estate 6.71%	U.S. Equity 30.90%	U.S. Equity 17.92%	Best ↑
	Real Estate 7.28%	Corp. Bonds 10.52%	U.S. Equity 29.58%	Real Estate 14.48%	Int'l Equity 16.62%	Real Estate 16.59%	Real Estate 15.84%	Cash 2.05%	U.S. Equity 27.24%	Real Estate 13.11%	Gov't Bonds 9.02%	U.S. Equity 16.17%	Int'l Equity 15.29%	Real Estate 11.81%	U.S. Equity 1.01%	Real Estate 7.97%	U.S. Equity 21.13%	Inflation 1.91%	Int'l Equity 22.13%	Int'l Equity 10.65%	
	Gov't Bonds 7.24%	Real Estate 6.74%	Hedge Funds 9.01%	U.S. Equity 11.78%	U.S. Equity 5.65%	U.S. Equity 15.34%	Gov't Bonds 8.67%	Inflation 0.10%	Corp. Bonds 16.05%	Int'l Equity 11.15%	Corp. Bonds 8.35%	Real Estate 10.54%	Real Estate 10.99%	Corp. Bonds 7.53%	Gov't Bonds 0.86%	Corp. Bonds 5.63%	Real Estate 6.96%	Cash 1.88%	Corp. Bonds 14.54%	Corp. Bonds 9.89%	
	Cash 4.43%	Hedge Funds 3.57%	Real Estate 8.99%	Hedge Funds 5.83%	Hedge Funds 5.13%	Hedge Funds 9.21%	Hedge Funds 7.68%	Corp. Bonds -3.07%	Hedge Funds 9.65%	Corp. Bonds 8.46%	Inflation 2.96%	Corp. Bonds 9.37%	Hedge Funds 7.70%	Gov't Bonds 4.92%	Inflation 0.66%	Int'l Equity 4.50%	Corp. Bonds 6.42%	Gov't Bonds 0.88%	Gov't Bonds 6.83%	Gov't Bonds 7.94%	
	Hedge Funds 3.11%	Inflation 2.39%	Corp. Bonds 7.69%	Corp. Bonds 5.25%	Inflation 3.42%	Cash 4.81%	U.S. Equity 5.47%	Real Estate -6.46%	Inflation 2.72%	Gov't Bonds 5.52%	U.S. Equity 1.75%	Hedge Funds 4.22%	Inflation 1.49%	Hedge Funds 3.14%	Hedge Funds 0.37%	Inflation 2.09%	Hedge Funds 3.88%	Hedge Funds -1.05%	Real Estate 6.42%	Hedge Funds 4.75%	
	Inflation 1.55%	Cash 1.79%	Gov't Bonds 2.36%	Gov't Bonds 3.48%	Cash 3.06%	Corp. Bonds 4.27%	Corp. Bonds 5.10%	Hedge Funds -19.86%	Cash 0.19%	Hedge Funds 5.07%	Cash 0.10%	Gov't Bonds 2.02%	Cash 0.07%	Inflation 0.68%	Cash 0.01%	Hedge Funds 1.89%	Gov't Bonds 2.30%	Corp. Bonds -2.51%	Hedge Funds 4.40%	Real Estate 1.60%	
	U.S. Equity -10.64%	Int'l Equity -14.95%	Inflation 1.88%	Inflation 3.25%	Gov't Bonds 2.65%	Gov't Bonds 3.46%	Cash 5.03%	U.S. Equity -36.72%	Gov't Bonds -2.19%	Inflation 1.50%	Hedge Funds -3.55%	Inflation 1.70%	Corp. Bonds -2.01%	Cash 0.04%	Corp. Bonds -0.77%	Gov't Bonds 1.05%	Inflation 2.12%	U.S. Equity -4.96%	Inflation 2.29%	Inflation 1.40%	
Worst ↓	Int'l Equity -19.74%	U.S. Equity -21.30%	Cash 1.16%	Cash 1.33%	Corp. Bonds 1.95%	Inflation 2.55%	Inflation 4.06%	Int'l Equity -45.52%	Real Estate -16.86%	Cash 0.13%	Int'l Equity -13.71%	Cash 0.11%	Gov't Bonds -2.60%	Int'l Equity -3.87%	Int'l Equity -5.67%	Cash 0.27%	Cash 0.84%	Int'l Equity -14.20%	Cash 2.28%	Cash 0.45%	Worst ↓

	Annualized Returns 2001 - 2020																				
Return		Cash 1.50%		Infl. 2.04%		Hedge 3.19%		Gov't. 4.34%		Int'l. 5.69%		Corp. 6.10%		U.S. Eq. 7.71%		R.E. 8.19%					Return
Risk		0.83%		1.34%		5.28%		4.61%		19.88%		5.60%		17.32%		4.61%					Risk

- Hedge Funds are represented by the HFRI FOF Conservative Index
- Inflation is represented by the U.S. Consumer Price Index (SA)
- International Equity is represented by the MSCI - AC World EX-USA Index
- Cash is represented by 30-day T-Bills
- U.S. Equity is represented by the S&P 1500 Index
- Real Estate is represented by the NCREIF National Property Index
- Corporate Bonds are represented by the BBG Barclays - U.S. Corp. Inv. Gd. Index
- Government Bonds are represented by the BBG Barclays - U.S. Government Index

Capital Markets

Return and Risk Assumptions

MPSERS Plan	Assumed Return* (Arithmetic)	Standard Deviation*	Trailing 10-year (Benchmark**)
Private Equity	11.1%	25.0%	17.3%
International Equity	8.9%	21.6%	4.9%
Real Ret/Opportunistic	8.1%	9.5%	7.2%
Domestic Equity	7.3%	18.2%	13.7%
Real Estate (Core)	7.0%	15.0%	7.4%
Absolute Return	5.2%	9.0%	3.1%
Long-Term Fixed Income	2.3%	4.0%	3.4%
Short-Term	2.2%	1.0%	0.6%

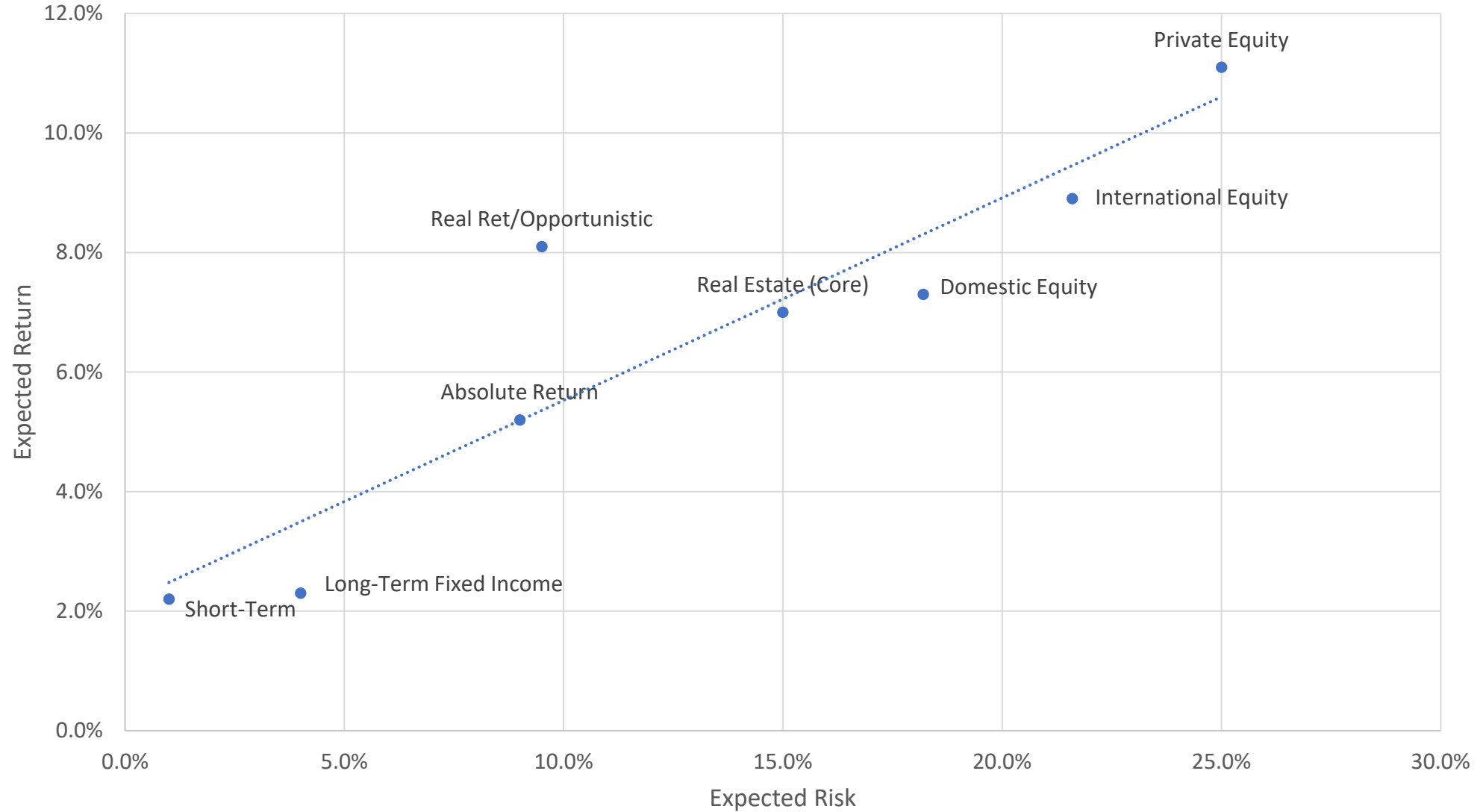
* Aon Investment Consultants 2021 Long-Term Return/Risk Assumptions

** Investment Policy Statement; Annualized Returns

*** Actual investments may differ due to changing conditions and the availability of new information

Capital Markets

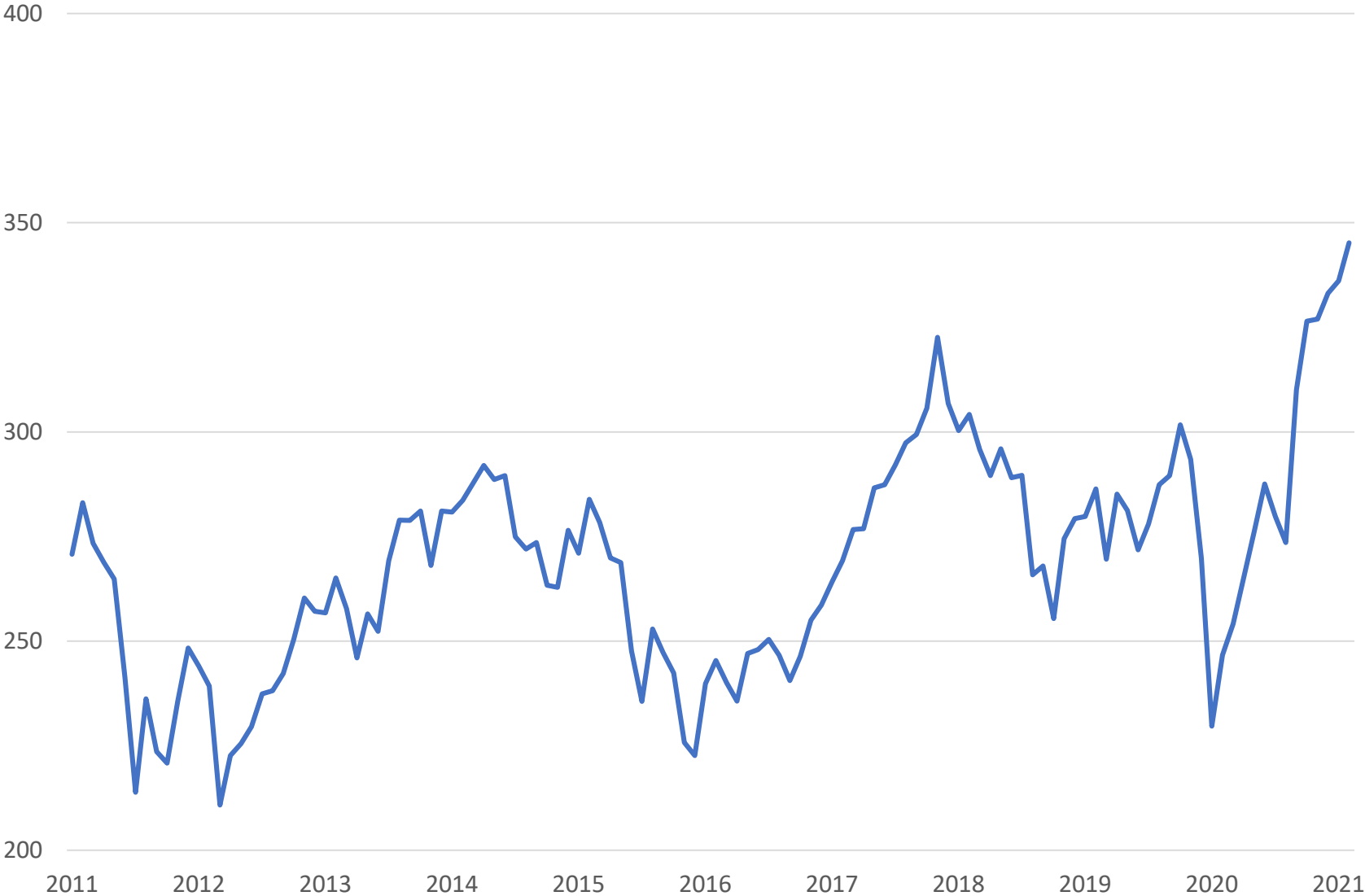
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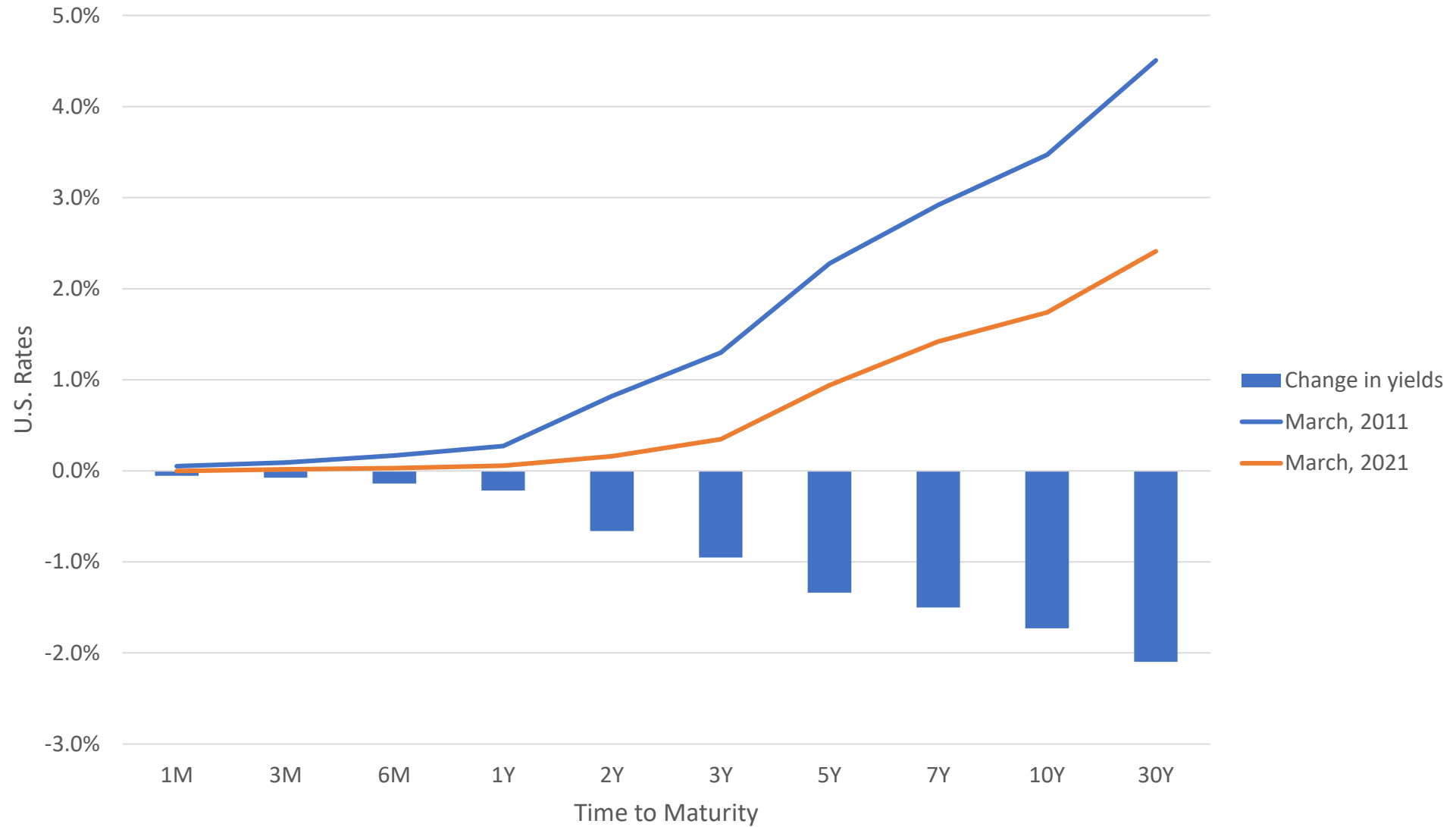
S&P Composite 1500 Index



MSCI ACWI ex USA Index



US Treasury Curves



Private Equity Review

Peter Woodford
Senior Investment Manager
Private Equity Division

Private Equity Division Performance

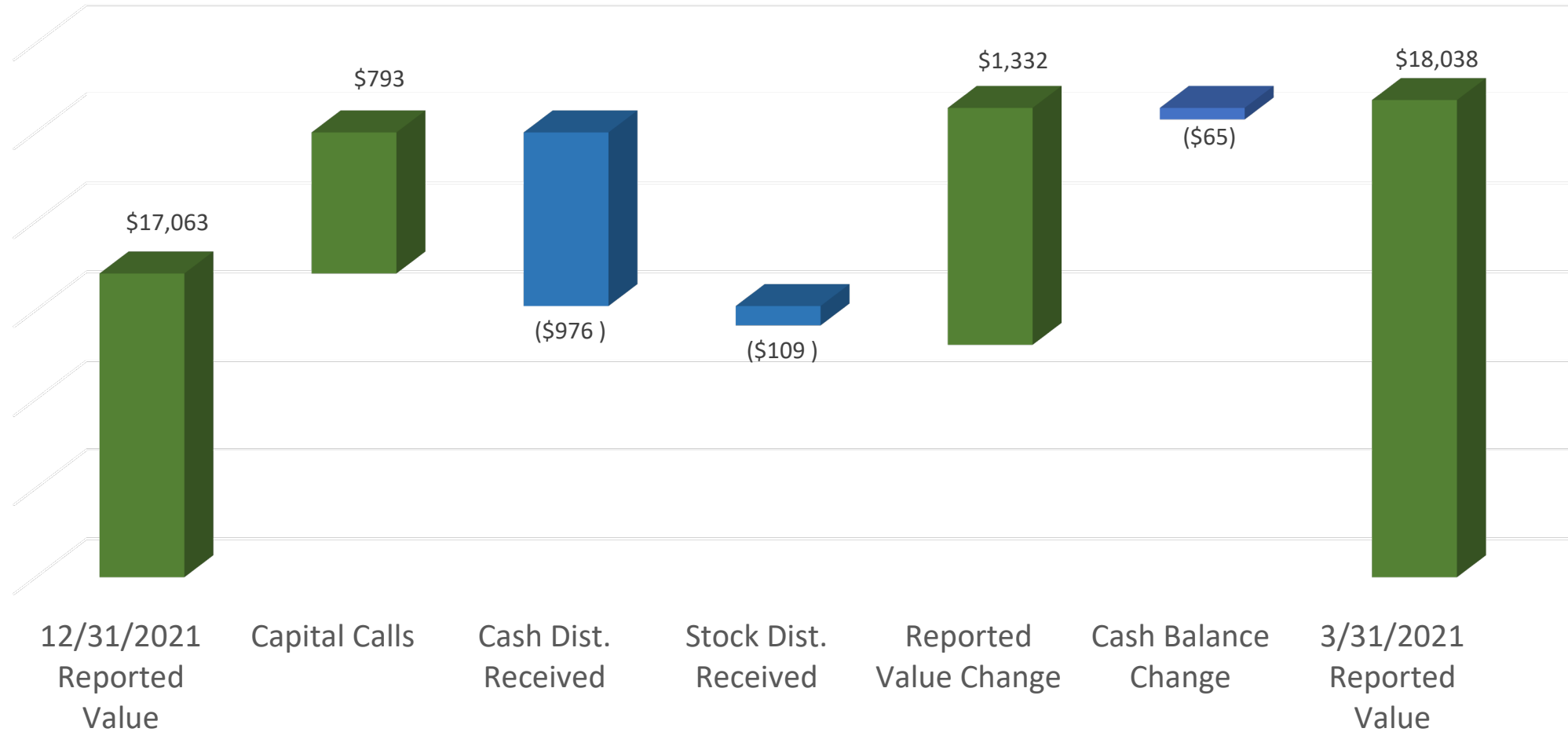
MPSERS Plan 3/31/2021	1-Year	3-Year	5-Year	7-Year	10-Year
Annualized Returns	22.6%	16.0%	15.4%	14.2%	14.6%
PE Benchmark Returns	21.9%	17.6%	18.6%	16.3%	17.3%
Peer Median Returns*	14.9%	8.3%	9.8%	9.3%	10.5%
Percentile Rank vs. Peers*	20	5	11	7	9

*State Street Universe greater than \$1 billion.

- Annualized Returns reflect strong equity markets
- Performance relative to peer median returns is excellent
- Strategy and investment decisions have made a significant difference

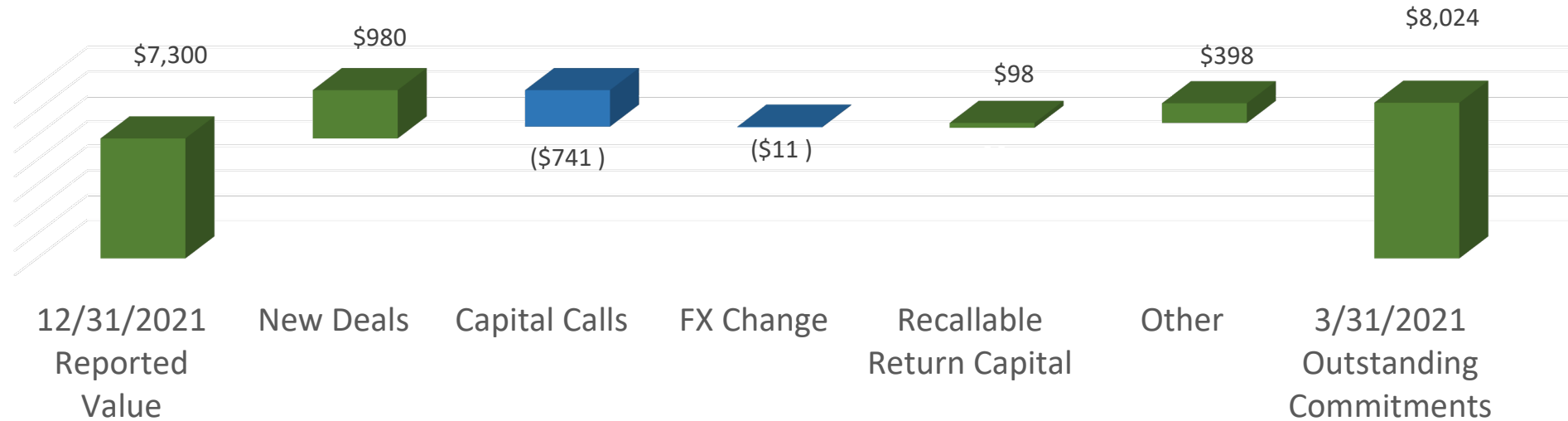
Portfolio Value

\$ Millions



Outstanding Commitments

\$ Millions

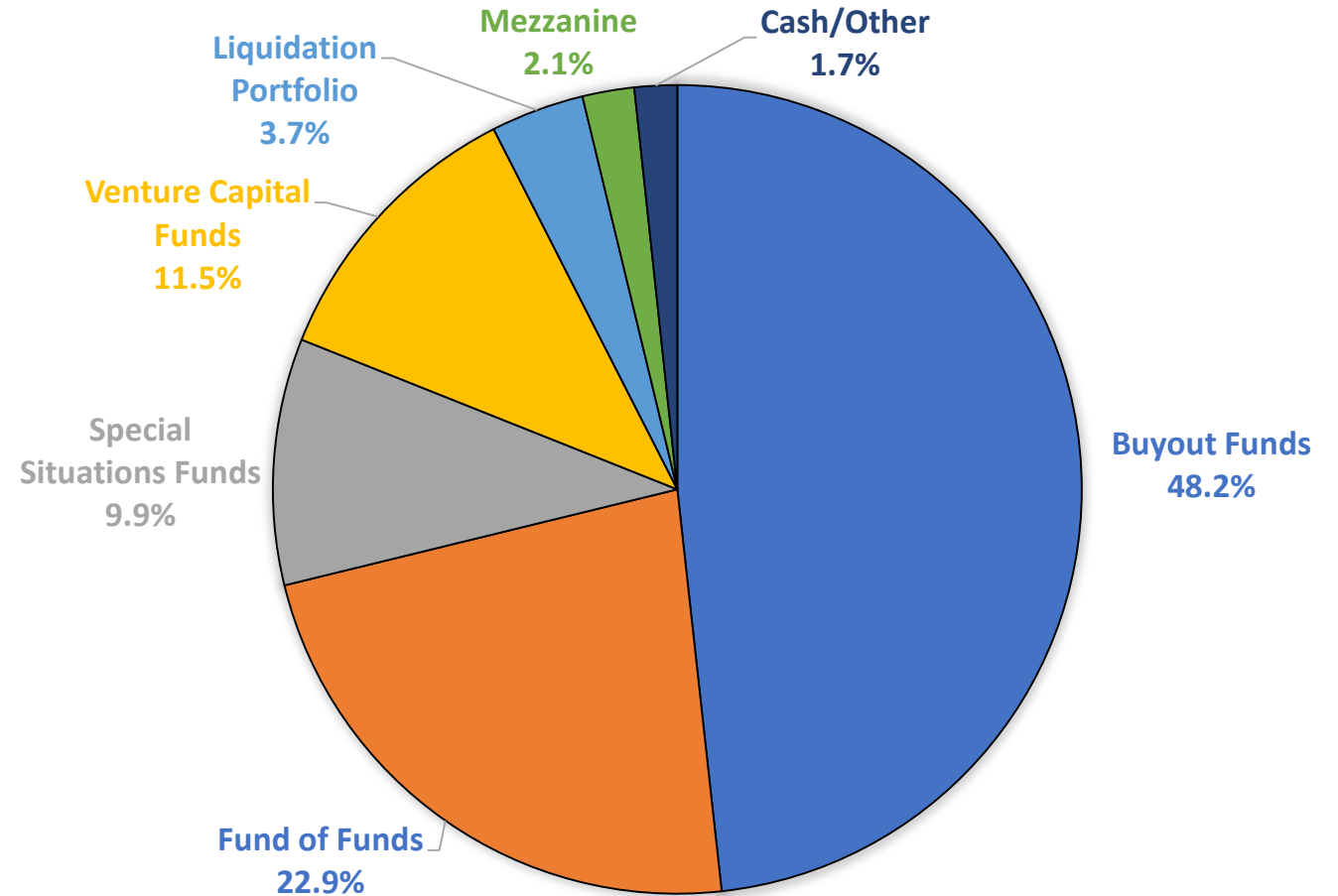


New Commitments Closed:

- \$300 million to Michigan Small and Emerging Manager Funds (Barings & GCM Grosvenor)
- \$200 million to HarbourVest Partners Co-Investment Fund VI
- \$150 million to Charlesbank Equity Fund X and Overage Fund
- \$150 million to Berkshire Partners X
- \$50 million to Insight Partners X

Asset Mix

- Portfolio largely allocated to buyout funds
 - Risk/return attributes
 - Size of the market
- Outlook
 - Increased focus on buyout
 - Large cap, middle market, growth equity funds
 - Decreased focus on fund of funds and low end of the buyout market



Strategy Update

- Our strategy is shaped by macro events
 - Stimulus and low interest rates
 - Tailwinds in technology and healthcare
- Other considerations
 - Fund size creep
 - High valuations
 - A market peak?
 - Emergence of growth equity funds
 - Shorter fund-raising cycles
 - Lower return expectations
- Strategy
 - High conviction managers with experience over multiple cycles
 - Sector focus
 - Large cap, middle market, and growth equity funds
 - Co-investment to lower fees and generate higher net returns
 - Maintain overweight to technology and healthcare sectors

Guest Speaker

Sandra Horbach is Managing Director & Co-Head of US Buyout and Growth at The Carlyle Group where she oversees Carlyle's three largest private equity funds with approximately \$40 billion in capital under management.

Ms. Horbach joined Carlyle in 2005 to launch the Consumer & Retail Group and led Carlyle's investments in Beats Electronics, CVC Brasil, Dunkin' Brands, Philosophy, The Nature's Bounty Co. and Vogue. She became Co-Head of US Buyout in 2016. She is also a member of Carlyle's Diversity & Inclusion Council.

Prior to joining Carlyle, Ms. Horbach was a General Partner with Forstmann Little & Co. Prior to Forstmann Little, Ms. Horbach spent 2 years in the M&A department of Morgan Stanley & Co. Ms. Horbach earned her M.B.A. from Stanford University and her B.A. from Wellesley College.

Ms. Horbach currently serves as a director on the Board of Novolex. She serves as a Trustee at Rockefeller University & Wellesley College and was formerly Chair of Stanford's Graduate School of Business Advisory Council.

