



PRESENTATION TO THE
ANDOVER RETIREMENT BOARD

PRESENTED BY

Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

October 22, 2020

Deborah B. Goldberg, Treasurer and Receiver General, Chair

Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

PRIM Top 10 Accomplishments

1

Stable organization: Exceptional staff with low turnover supported by a strong, stable Board and Committee structure

2

National recognition for PRIM and its staff

3

Strong relative and absolute investment performance

4

Sophisticated risk management platform and framework

5

Timely asset allocation decisions

6

Project SAVE

7

Re-engineered Hedge Fund program – Portfolio Completion Strategies

- Direct hedge funds
- Hedge fund replication
- Emerging manager direct hedge fund
- Hedge fund and other credit fund co-investment

8

Enhanced manager search and selection process

9

Private Equity co-investment

10

Direct Real Estate Program

Recent Recognition

[MIT Sloan/PRIM Collaboration on Environmental, Social, and Governance Ratings Research](#)

PRIM has joined with the MIT Sloan Sustainability Initiative as the founding member of the Aggregate Confusion Project. The groundbreaking collaboration seeks to create more reliable and transparent ESG data and benchmarks for Investors. (September 2020)

[GIPS Compliance](#)

For the third consecutive year, PRIM has completed the CFA Institute's Global Investment Performance Standards of Integrity and transparency. PRIM is one of only a handful of large public pension plans to comply with the GIPS standards. (August 2020)

[PRIM's Private Equity Portfolio ranked #2 by the American Investment Council](#)

For the second consecutive year, PRIM's Private Equity Portfolio has been ranked #2 among 176 U.S. public pension funds based on 10-year performance by the American Investment Council's Public Pension Study. PRIM is the only fund that has been in the top five every year the study has been conducted. (July 2020)

[Certificate of Achievement for Excellence in Financial Reporting – Government Finance Officer Association](#)

PRIM was awarded the Government Finance Officer Association's Certificate of Achievement for Excellence in Financial Reporting for the 15th consecutive year. (May 2020)

[Institutional Investor's Lifetime Achievement Award](#)

Michael Trotsky, CFA, Executive Director and Chief Investment Officer of Mass PRIM, was honored with Institutional Investor's Lifetime Achievement Award at the third annual Allocators' Choice Awards (December 2019)

[Commonwealth's Citation for Outstanding Performance](#)

Qingmei Li, CPA, on PRIM's finance team, received the Commonwealth's Citation for Outstanding Performance at a State House ceremony with Treasurer Deborah Goldberg, Chair of the PRIM Board. (October 2019)

[Michael Trotsky elected as Chair of the Board of Directors for CFA Society Boston](#)

CFA Society Boston has elected Michael Trotsky, CFA, Executive Director and Chief Investment Officer to serve as Chair of the Board of Directors. The CFA Society Boston serves 6,000 professionals representing 650 companies and is part of the CFA Institute with nearly 200,000 members. (June 2019)

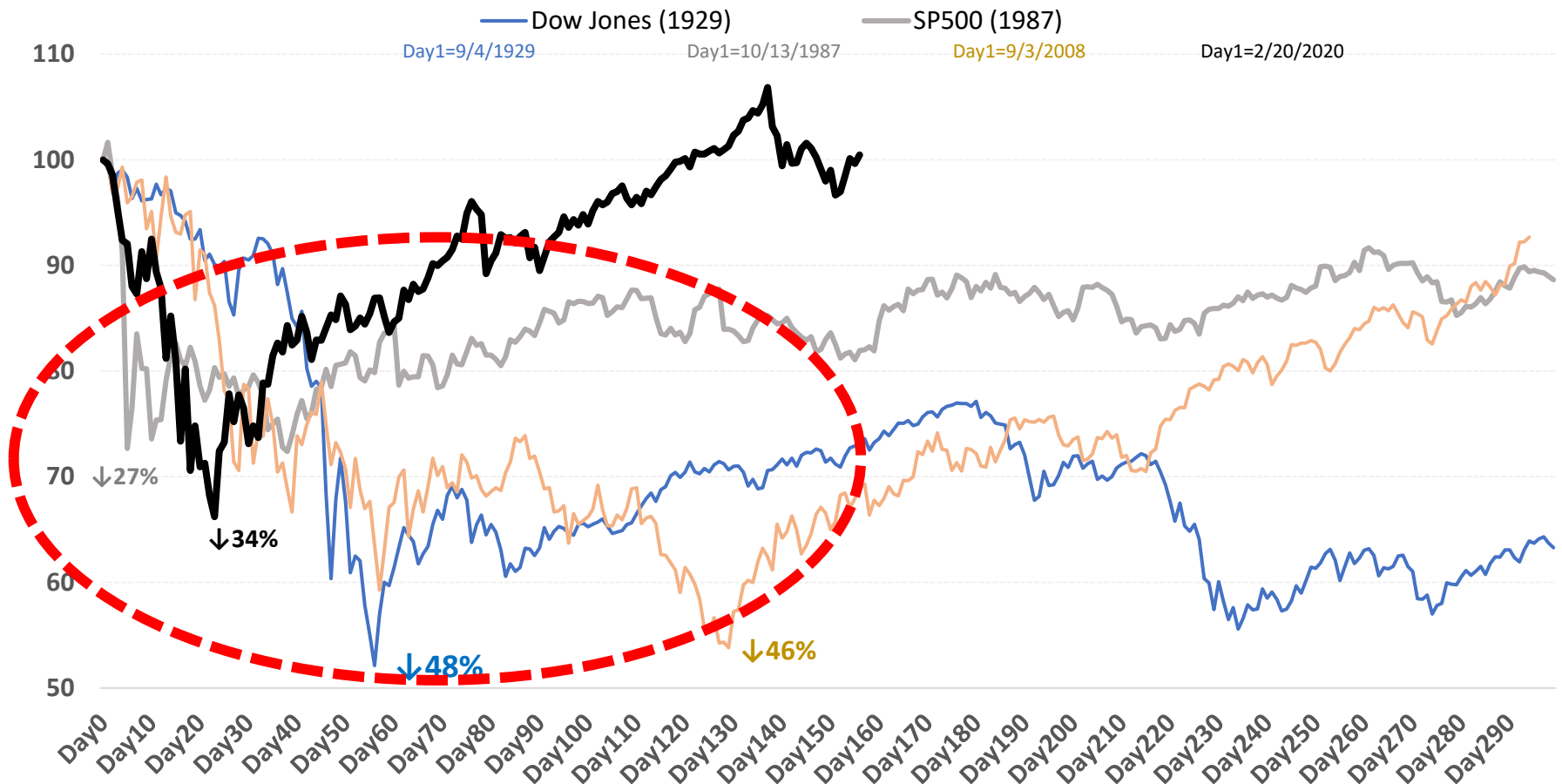
[Nominated for "Public Plan of the Year" at the Institutional Investor Hedge Fund Industry Awards](#)

For an unprecedented fourth year in a row, PRIM was nominated for "Public Plan of the Year" at the Institutional Investor Hedge Fund Industry Awards, in June 2019. PRIM won this award in 2016. The other nominees in 2019 were Ontario Municipal, New Mexico, Wisconsin, Texas Teachers and Illinois Teachers. (May 2019)

Unprecedented Sharp Decline – as of 9/30/2020

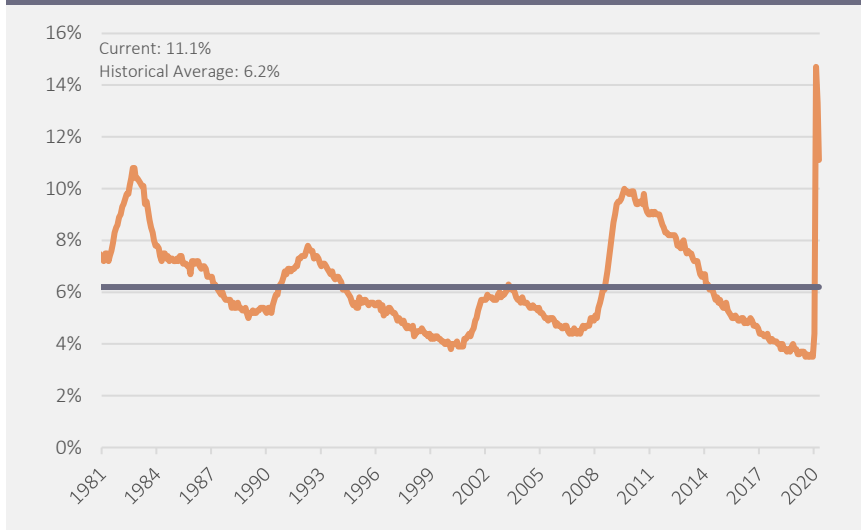
- Velocity of COVID-19 sell-off surpassed that of GFC.
- Rebound velocity also surpassed that post previous sell-offs
- S&P 500 reached new high in early September.

Chart - Cumulative Performance since Onset of Decline

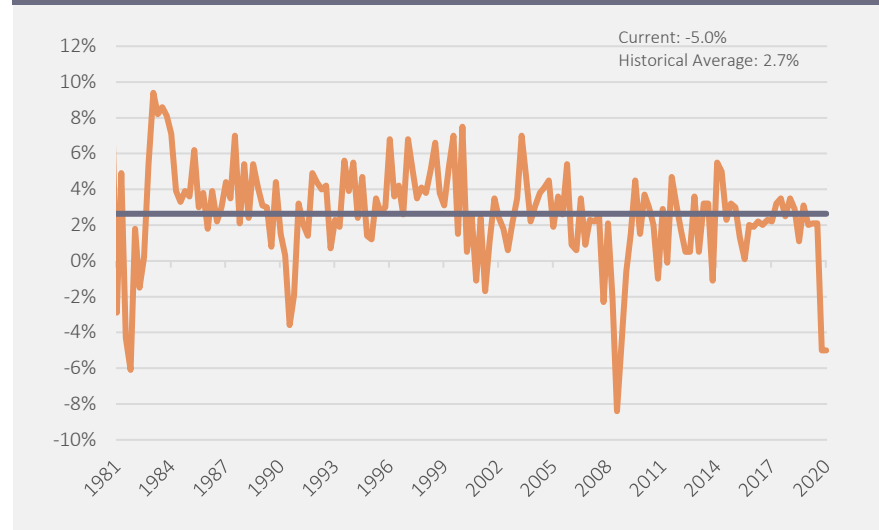


U.S. Economic Data

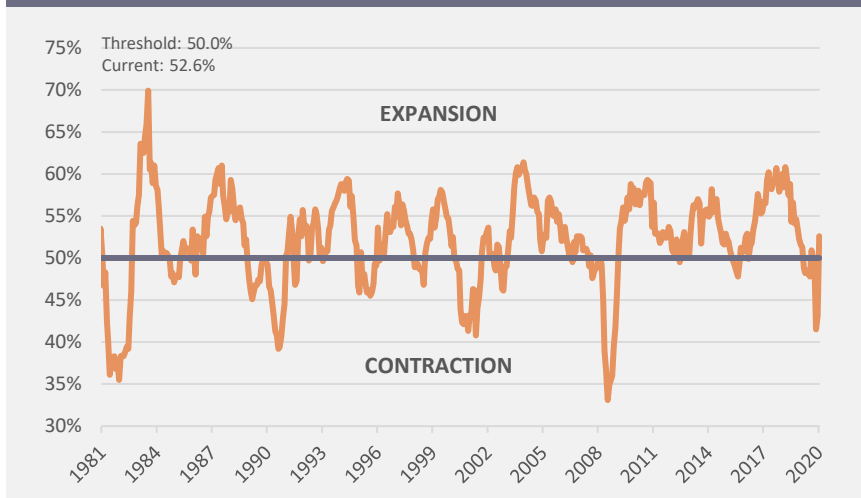
UNEMPLOYMENT RATE



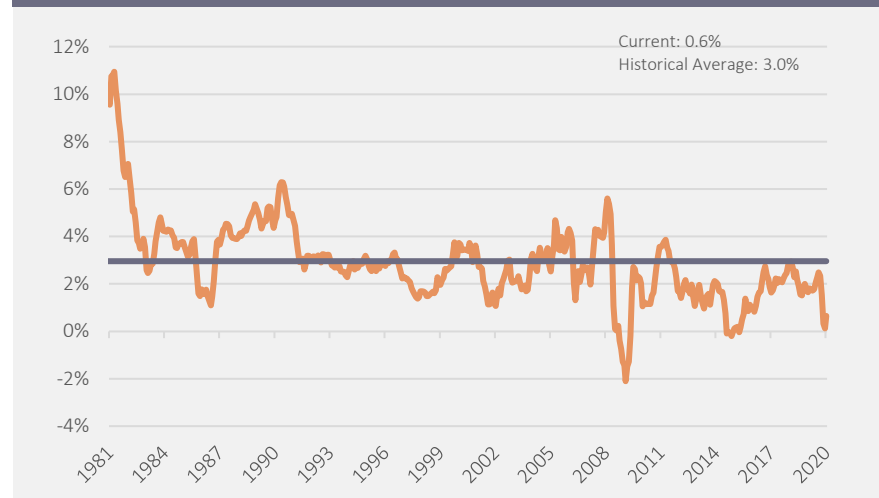
GDP GROWTH RATE



MANUFACTURING PMI

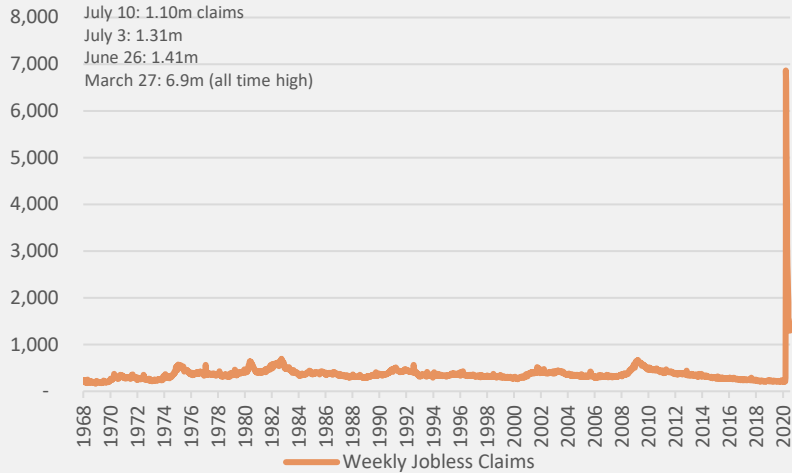


CONSUMER PRICE INDEX

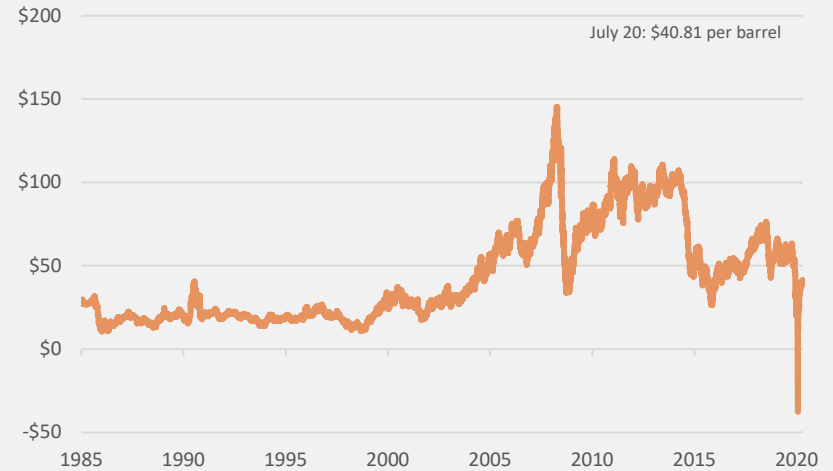


U.S. Economic Data

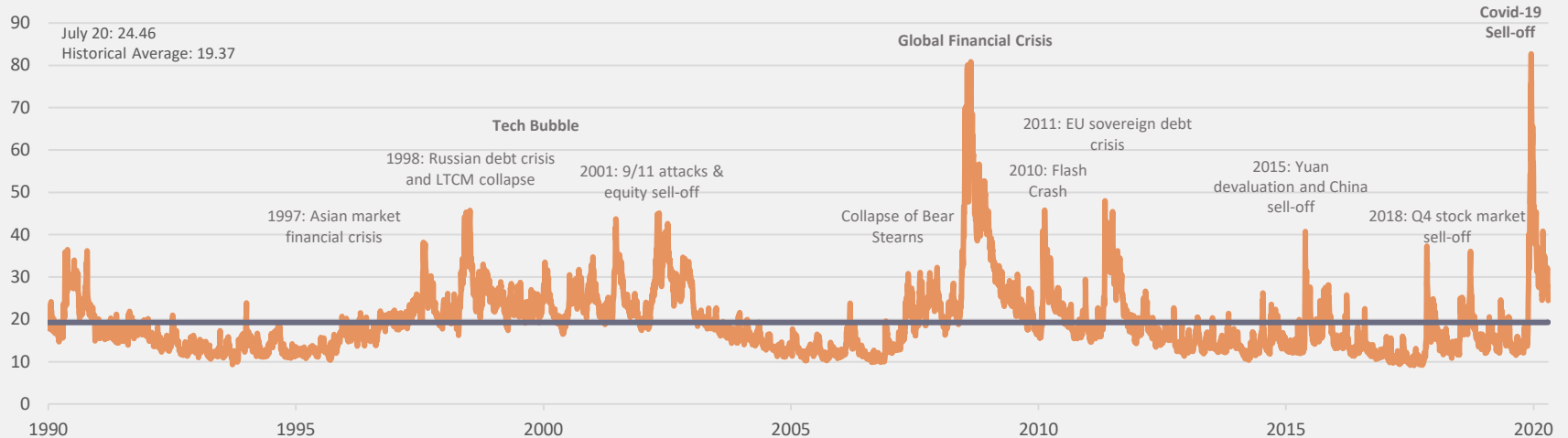
WEEKLY INITIAL JOBLESS CLAIMS (IN MILLIONS)



WTI CRUDE OIL (\$/BBL)

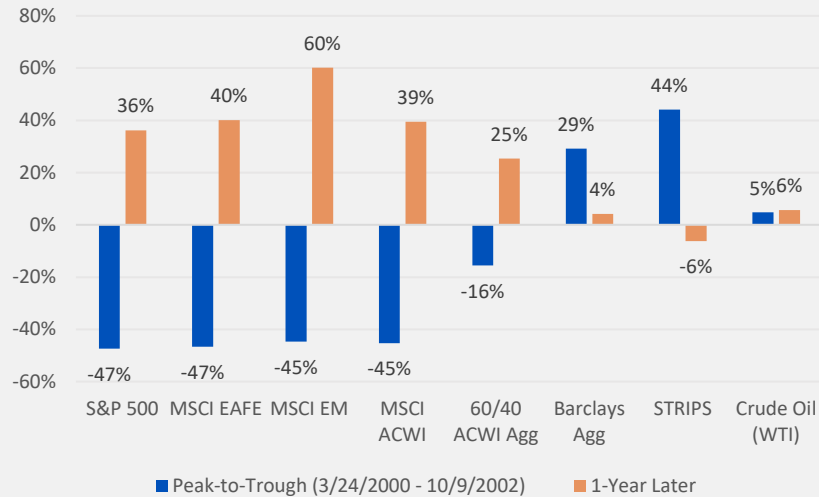


CBOE MARKET VOLATILITY INDEX (VIX)

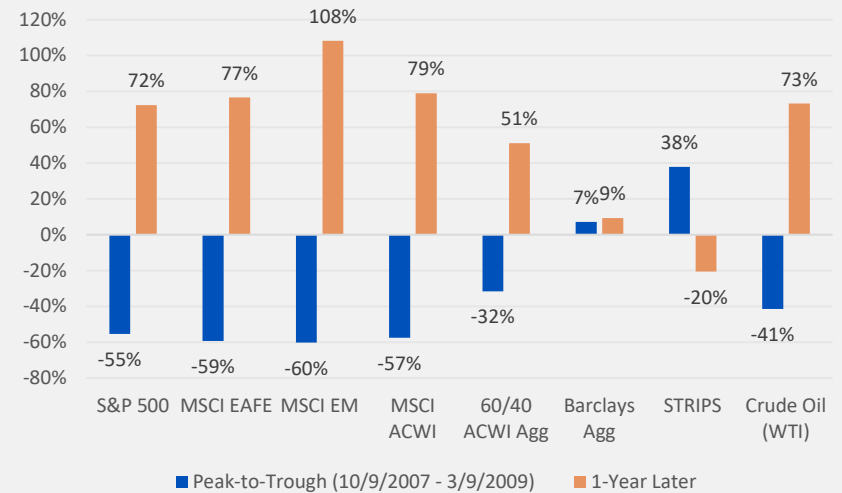


Historical Market Sell-Off Performance

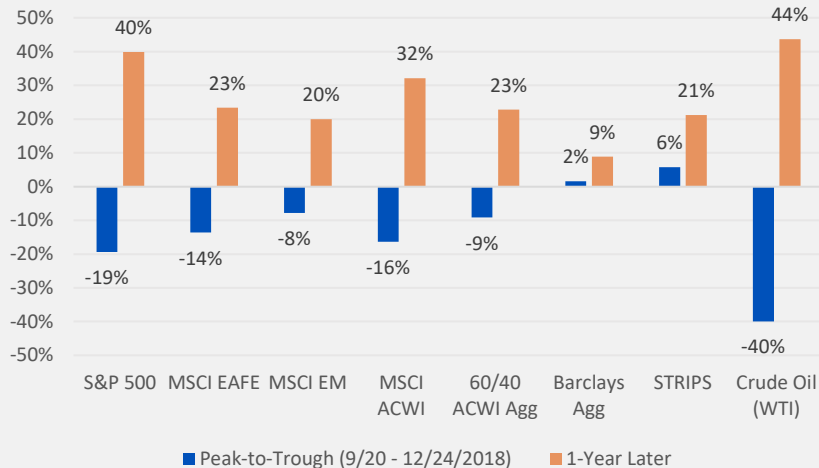
DOT-COM BUBBLE



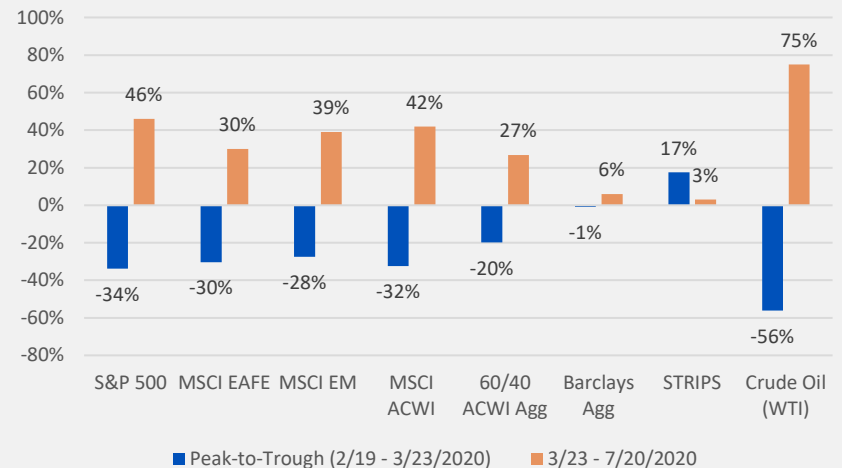
GLOBAL FINANCIAL CRISIS



2018 GLOBAL STOCK MARKET DOWNTURN



COVID-19 PANDEMIC



A blue-tinted photograph of a city skyline at dusk, viewed from a waterfront promenade. The sky is a deep blue, and the city lights are beginning to glow. In the foreground, there is a paved walkway with a low stone wall and some greenery on the left. The water of the harbor is visible on the right, with several wooden pilings extending into it.

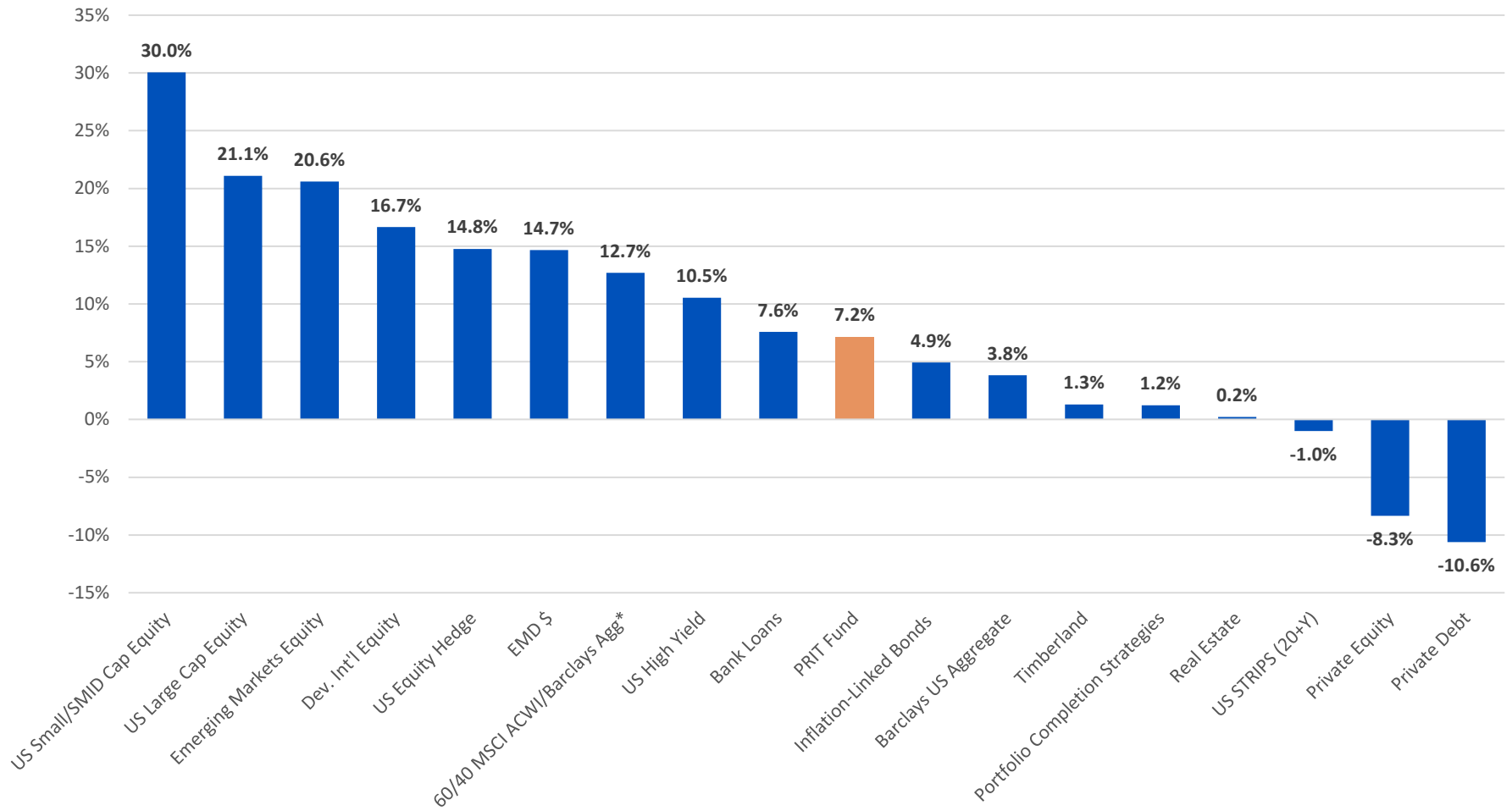
PRIT FUND PERFORMANCE

The logo for Mass PRIM, featuring the word "Mass" in a sans-serif font above the word "PRIM" in a bold, sans-serif font. To the left of the text are three vertical bars of increasing height, resembling a bar chart.

AS OF JUNE 30, 2020

PRIT Performance By Strategy – Second Quarter 2020

Quarter Ended June 30, 2020 (Gross of Fees)



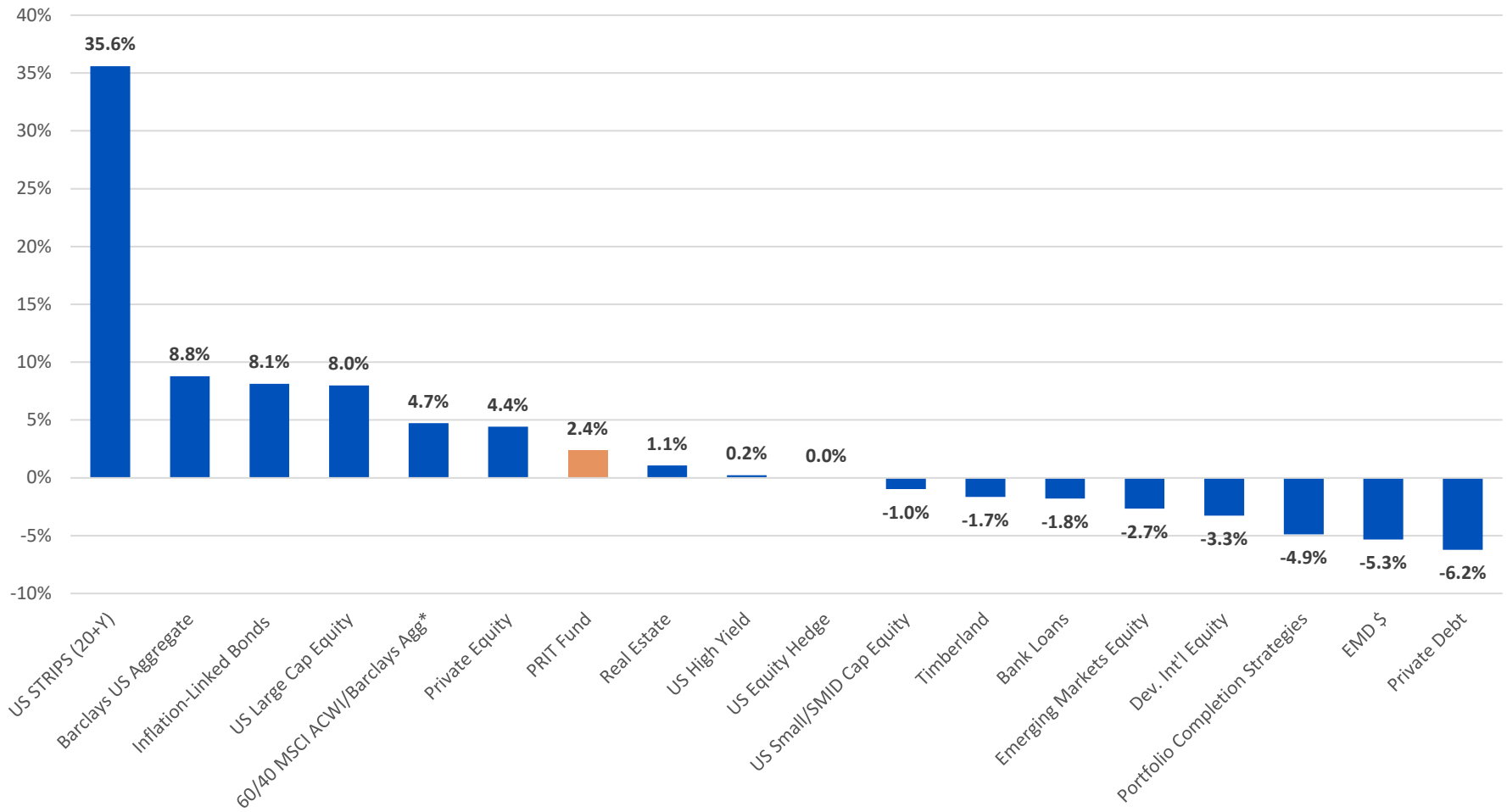
Source: BNY Mellon, FactSet.

All performance figures reflected are PRIT Fund Asset Class returns.

*MSCI ACWI/Barclays Aggregate is derived from a 60/40 combination of index returns.

PRIT Performance By Strategy – One Year

One Year Ended June, 2020 (Gross of Fees)



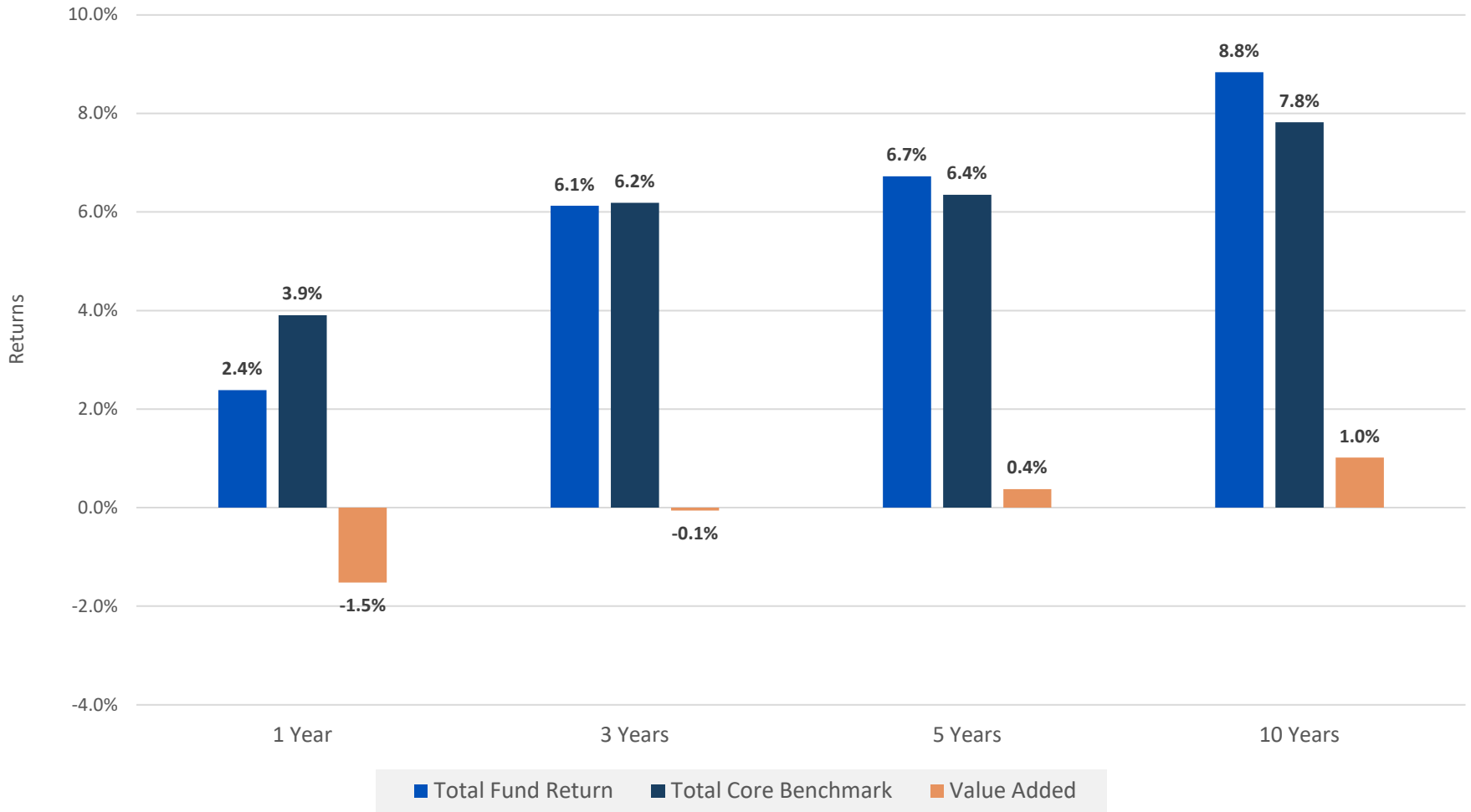
Source: BNY Mellon, FactSet.

All performance figures reflected are PRIT Fund Asset Class returns.

*MSCI ACWI/Barclays Aggregate is derived from a 60/40 combination of index returns.

Total PRIT Fund Total Returns

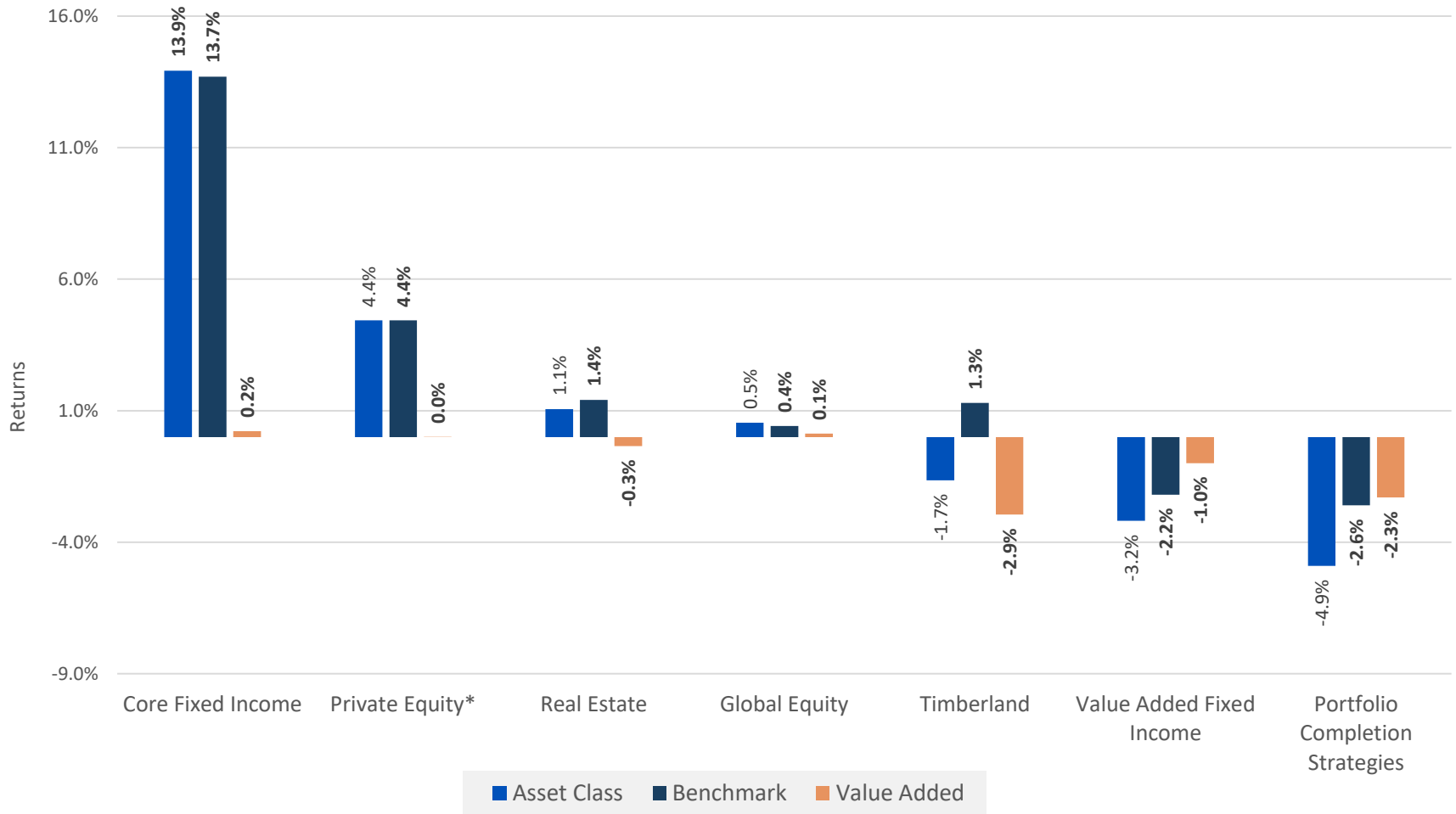
Annualized Returns as of June 30, 2020 (Gross of Fees)



Source: BNY Mellon.
Total Core Benchmark includes private equity benchmark.

PRIT Asset Class Performance Summary

One Year Ended June 30, 2020 (Gross of Fees)



Source: BNY Mellon. Totals may not add due to rounding. *Benchmark is actual performance. **Hedge Fund returns are net of fees.

PRIT Fund Annualized Returns By Asset Class

(Gross of Fees)

1 Year	3 Year	5 Year	10 Year
CORE FIXED INCOME 13.9%	PRIVATE EQUITY 14.7%	PRIVATE EQUITY 15.4%	PRIVATE EQUITY 16.9%
PRIVATE EQUITY 4.4%	CORE FIXED INCOME 7.8%	REAL ESTATE 7.0%	REAL ESTATE 10.3%
REAL ESTATE 1.1%	GLOBAL EQUITY 5.5%	CORE FIXED INCOME 6.5%	GLOBAL EQUITY 9.5%
GLOBAL EQUITY 0.5%	REAL ESTATE 5.5%	GLOBAL EQUITY 6.4%	CORE FIXED INCOME 5.6%
TIMBER (1.7%)	TIMBER 2.6%	VALUE-ADDED FIXED INCOME 3.6%	VALUE-ADDED FIXED INCOME 5.3%
VALUE-ADDED FIXED INCOME (3.2%)	VALUE-ADDED FIXED INCOME 2.3%	TIMBER 3.3%	TIMBER 4.9%
PCS (4.9%)	PCS 1.1%	PCS 1.3%	PCS 3.8%

Source: BNY Mellon. Returns as of June 30, 2020.

Andover Retirement System

Net of Fee Returns as of June 30, 2020

	MKT \$	%	Month	QTR	FY '20	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Inception
ANDOVER RETIREMENT SYSTEM	122,274,511	100%	0.76	8.72	2.36	-3.51	2.36	5.95	6.44	8.45	8.19
CAPITAL FUND	71,434,447	58%	0.30	7.20	1.99	-3.63	1.99	5.70	6.29	8.40	
CASH FUND	240,276	0%	0.02	0.11	1.65	0.50	1.65	1.85	1.34	0.75	
CORE FIXED INCOME	7,082,068	6%	0.81	2.66	13.82	10.52	13.82				
CORE REAL ESTATE	12,600,720	10%	-1.60	0.11	0.56	-4.36	0.56				
DOMESTIC EQUITY	16,852,936	14%	2.44	23.07	5.50	-3.90	5.50				
EMERGING MARKETS	4,120,772	3%	7.41	20.45	-3.24	-10.59	-3.24				
INTERNATIONAL EQUITY	2,787,355	2%	2.87	16.58	-3.51	-10.97	-3.51				
PUBLIC VALUE-ADDED FIXED INCOME	7,155,937	6%	1.53	9.90	-2.50	-5.05	-2.50				
<i>INTERIM BENCHMARK</i>			<i>0.44</i>	<i>7.53</i>	<i>2.90</i>	<i>-2.53</i>	<i>2.90</i>	<i>6.25</i>	<i>6.40</i>	<i>8.33</i>	
<i>ML 90 DAY T-BILL</i>			<i>0.01</i>	<i>0.02</i>	<i>1.63</i>	<i>0.60</i>	<i>1.63</i>	<i>1.77</i>	<i>1.19</i>	<i>0.64</i>	
<i>CORE FIXED INCOME BENCHMARK</i>			<i>0.59</i>	<i>2.24</i>	<i>13.69</i>	<i>10.06</i>	<i>13.69</i>				
<i>80% NCREIF PROPERTY ONE QTR LAG/20% FTSE</i>											
<i>EPRA NAREIT DEVELOPED NET TOTAL RETURN</i>			<i>1.11</i>	<i>2.60</i>	<i>1.41</i>	<i>-2.23</i>	<i>1.41</i>				
<i>74.3% CUSTOM S&P500 / 25.7% TOTAL</i>											
<i>SMALL/SMID/MICRO CAP EQUITY</i>			<i>2.44</i>	<i>22.59</i>	<i>4.86</i>	<i>-4.62</i>	<i>4.86</i>				
<i>CUSTOM EMERGING MARKETS BENCHMARK</i>			<i>7.34</i>	<i>18.75</i>	<i>-3.88</i>	<i>-10.14</i>	<i>-3.88</i>				
<i>CUSTOM INTERNATIONAL EQUITY BENCHMARK</i>			<i>3.08</i>	<i>15.90</i>	<i>-5.12</i>	<i>-11.64</i>	<i>-5.12</i>				
<i>PUBLIC VALUE-ADDED FIXED INCOME BENCHMARK</i>			<i>1.47</i>	<i>9.99</i>	<i>-1.01</i>	<i>-4.14</i>	<i>-1.01</i>				

Andover Retirement System

Transaction History

- **Inception date: March 1, 2004** Initial contribution to the PRIT Fund as a Purchasing/Segmented System, investing \$1 million in the Core Real Estate sleeve. Subsequent contributions to Real Estate were made during 2004-2005.
- **October 1, 2006:** Initial contribution of \$4.3 million in the Hedge Funds sleeve, with additional allocations to Hedge Funds in 2007.
- **November 1, 2007:** Initial contribution of \$15.2 million to the General Allocation Account (GAA, aka PRIT Core Fund).
- **December 1, 2007:** Became a full Purchasing System in the PRIT Fund, transferring all of its liquid assets (\$62.8 million) to the GAA, and exchanging holdings from the Real Estate and Hedge Funds sleeves into the GAA (an “exchange” is an internal transfer between or among PRIT investment sleeves).
- **August 1, 2017:** Redeemed a total of \$63.6 million from the GAA.
- **September 1, 2017:** Contributed to the following investment sleeves: Domestic Equity, \$37.8 million; Core Fixed Income, \$5.49 million; Core Real Estate, \$10.98 million; International Equity, \$2.75 million; Emerging Markets Equity, \$4.12 million; Public Value-Added Fixed Income, \$6.87 million; GAA, \$3.60 million.
- **September 4, 2018:** Exchanged \$0.2 million from Domestic Equity to Core Fixed Income, and \$1.5 million from Domestic Equity to the GAA.
- **August 3, 2020:** Contributed an additional \$12.3 million to the GAA.



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THANK YOU

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