

PENSION RESERVES INVESTMENT MANAGEMENT BOARD
Investment Committee Meeting
Monday, September 21, 2015
9:30 a.m.

Agenda

- I. Approval of the Minutes.
- II. Executive Director/Chief Investment Officer Comments.
- III. Public Markets Performance Update.
- IV. Progress Core Bond Strategy.
- V. Hedge Fund Portfolio Update.
- VI. Hedge Fund Managed Account Primer and Update.
- VII. Private Equity Portfolio Update.
 - a. Performance Summary and Cash Flows.
 - b. Private Equity Commitment Summary.

Appendices

- A. Minutes of the PRIM Investment Committee Meeting of July 21, 2015.
- B. Callan PRIT Fund Performance Report Color Charts.
- C. BNY Mellon Gross of Fees Performance Report.
- D. Callan Investment Measurement Service Monthly Review.
- E. Public Markets Manager Bench Update: PRIM Progress Memorandum.
- F. Public Markets Manager Bench Update: Callan Progress Memorandum.
- G. Hedge Fund Managed Account Primer.

(This page was left intentionally blank.)

PENSION RESERVES INVESTMENT MANAGEMENT BOARD
Investment Committee Meeting
Monday, September 21, 2015
9:30 a.m.

EXPANDED AGENDA

I. Approval of the Minutes.

The minutes of the PRIM Investment Committee meeting of July 21, 2015 are contained at **Appendix A**.

II. Executive Director/Chief Investment Officer Comments.

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

PRIT Core Fund Performance Reports:

- The Callan PRIT Fund Performance Report Color Charts are contained at **Appendix B**.
- The BNY Mellon Gross of Fees Performance Report is contained at **Appendix C**.
- The Callan Investment Measurement Service Monthly Review is contained at **Appendix D**.

III. Public Markets Performance Update.

Sarah N. Samuels, CFA, Deputy Chief Investment Officer – Director of Public Markets & Investment Research, Chuck LaPosta, CFA, Senior Investment Officer – Fixed Income, and Andre C. Clapp, Ph. D., CFA, Senior Investment Officer – Public Equities. Written materials will be handed out at the meeting.

IV. Public Markets Manager Bench Update: Progress Core Bond Strategy.

Chuck LaPosta, CFA, Senior Investment Officer – Fixed Income. Progress Investment Management Company, LLC, a Manager of Emerging Managers, was placed on PRIM's manager bench in 2013. A memorandum from PRIM is contained at **Appendix E**. A memorandum from Callan Associates is contained at **Appendix F**.

V. Hedge Fund Portfolio Update.

Eric R. Nierenberg, Ph.D., Senior Investment Officer—Director of Hedge Funds and Low Volatility Strategies.

VI. Hedge Fund Managed Account Primer and Update.

Eric R. Nierenberg, Ph.D., Senior Investment Officer—Director of Hedge Funds and Low Volatility Strategies. The presentation is attached as **Appendix G**.

VII. Private Equity Portfolio Update.

Michael R. Bailey, Senior Investment Officer – Director of Private Equity.

a. Performance Summary and Cash Flows.

PRIM Board Private Equity Portfolio Performance as of August 31, 2015 ¹					
Committed	Contributed ²	Distributed	Market Value	Total Value	Net IRR ³
17,011,239,120	13,874,214,622	15,402,187,157	6,779,370,525	22,181,557,682	13.26%

1. Excludes Alternative Fixed Income and Private Natural Resources partnerships.

2. Contributions include fees.

3. Net IRR since inception, as calculated by Hamilton Lane's Portfolio Reporting System.

2015 Cash Flows ¹

Quarter	Contributions ²	Distributions	Net Cash Flow
31-Mar-15	283,670,913	395,789,514	112,118,601
30-Jun-15	327,467,876	615,659,051	288,191,175
30-Sep-15			
31-Dec-15			
TOTAL	\$611,138,789	\$1,011,448,565	\$400,309,776

1. Excludes Alternative Fixed Income and Private Natural Resources partnerships.

2. Contributions include fees.

b. Private Equity Commitment Summary.

PRIM Private Equity 2015 Investment Summary (\$ in Millions)				
*Denotes existing PRIM relationship				
<u>Partnership</u>	<u>Investment Focus</u>	<u>Special Equity</u>	<u>Venture Capital</u>	<u>Total PRIT Commitment</u>
<u>Approved as Interim Recommendations January 20th</u>				
Catalyst Investors IV, L.P. *			\$ 65	
Insight Venture Partners IX, L.P. *			\$ 120	
Insight Growth-Buyout Coinvestment Fund, L.P. *			\$ 40	
<u>Approved at the February 11th Board Meeting</u>				
Flagship Ventures Fund V, L.P. *			\$ 25	
Rhône Partners V, L.P.		\$ 106		
<u>Approved at the April 7th Board Meeting</u>				
Blackstone Capital Partners VII, L.P. *		\$ 225		
TA XII, L.P. *			\$ 200	
Thoma Bravo Special Opportunities Fund II, L.P. *		\$ 50		
<u>Approved at the June 4th Board Meeting</u>				
Charterhouse Capital Partners X, L.P. *		\$ 112		
Quantum Parallel Partners VI-C, L.P. *		\$ 45		
Total		\$ 537	\$ 450	\$ 987
2015 Investment Plan				\$1,700
Remaining To Be Committed				\$713
PRIM Alternative Fixed Income 2015 Investment Summary (\$ in Millions)				
*Denotes existing PRIM relationship				
<u>Partnership</u>			<u>Total PRIT Commitment</u>	
<u>Approved as Interim Recommendations March 2nd</u>				
Oaktree Opportunities Fund X, L.P. *			\$ 75	
Oaktree Opportunities Fund Xb, L.P. *			\$ 150	
<u>Approved at the April 7th Board Meeting</u>				
CVI Credit Value Fund III, L.P.			\$ 150	
Total			\$ 375	
2015 Investment Plan				\$700
Remaining To Be Committed				\$325

(This page was left intentionally blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix A

Minutes of the PRIM Investment Committee Meeting
Tuesday, July 21, 2015

*PRIM Investment Committee Meeting
Monday, September 21, 2015*



**PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD**

**Minutes of the PRIM Investment Committee Meeting
Tuesday, July 21, 2015**

Committee Member Attendees:

- Treasurer Deborah B. Goldberg, Chair
- Joseph C. Bonfiglio
- Constance M. Everson, CFA (attended by phone)
- Ruth Ellen Fitch (arrived at 10:10 a.m.)
- Michael J. Heffernan
- Edward W. Kane
- Paul E. Shanley, Esquire
- Glenn P. Strehle, CFA
- Timothy L. Vaill

The meeting of the PRIM Investment Committee was called to order at 9:30 a.m.

I. Approval of the Minutes.

The PRIM Investment Committee unanimously approved the Minutes of the July 21, 2015 meeting.

II. Executive Director/Chief Investment Officer Comments.

Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer, provided the committee with an update on the following:

Organizational Updates

Amaran Soja joined PRIM in July as the new Executive Assistant. Amaran joins us from Governo Law Firm where she was a Senior Legal Secretary supporting senior partners. Prior to that, Amaran worked at Liberty Mutual and also interned for Senator Ted Kennedy in Constituent Services. Amaran graduated from Westfield State with a B.A. in Political Science.

Erin McCafferty, on the Private Equity team, was promoted to Senior Investment Officer. Erin joined PRIM in April 2014 as an Investment Officer.

A new program to pilot a cross-training and career development program was announced. The program will allow high-performing employees to grow their expertise beyond their core responsibilities. Sarah Samuels, PRIM's Deputy Chief Investment Officer and Director of Public Markets and Research, will be the first participant. Sarah will rotate through private equity, real estate, hedge funds and risk management for four month intervals to learn more about them, to contribute to their work, and to encourage cross fertilization of ideas and initiatives. The program, if successful, will be offered to additional, high-performing employees in the future.

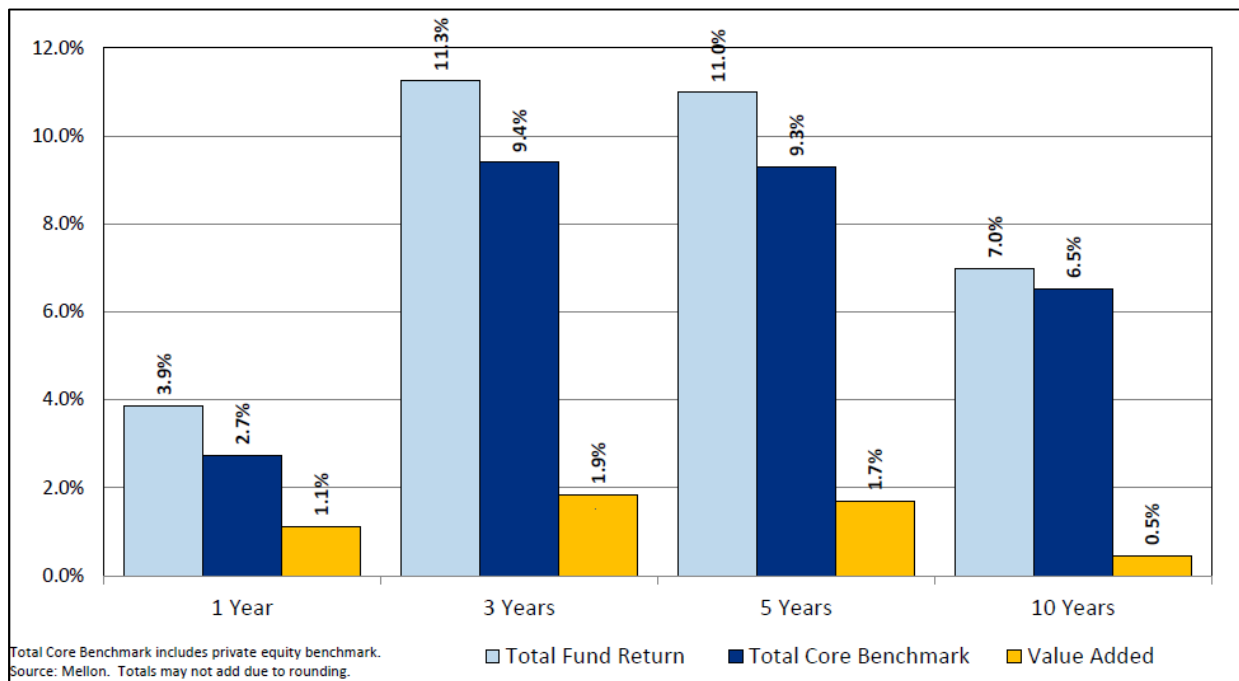
PRIT Fund Performance

Following very strong fiscal years in 2013 and 2014 in which the PRIT Fund was up 12.7% and 17.6%, respectively, markets weakened in fiscal year 2015. The PRIT Fund was up 3.9% in fiscal 2015, outperforming the benchmark by 113 basis points. The PRIT Fund's net asset value was \$61.2 billion on June 30, 2015.

As of June 30, 2015, the PRIT Fund net asset value stood at \$61.2 billion. The PRIT Fund's trailing 1, 3, 5, and 10 year returns remain strong both on an absolute and on a relative basis:

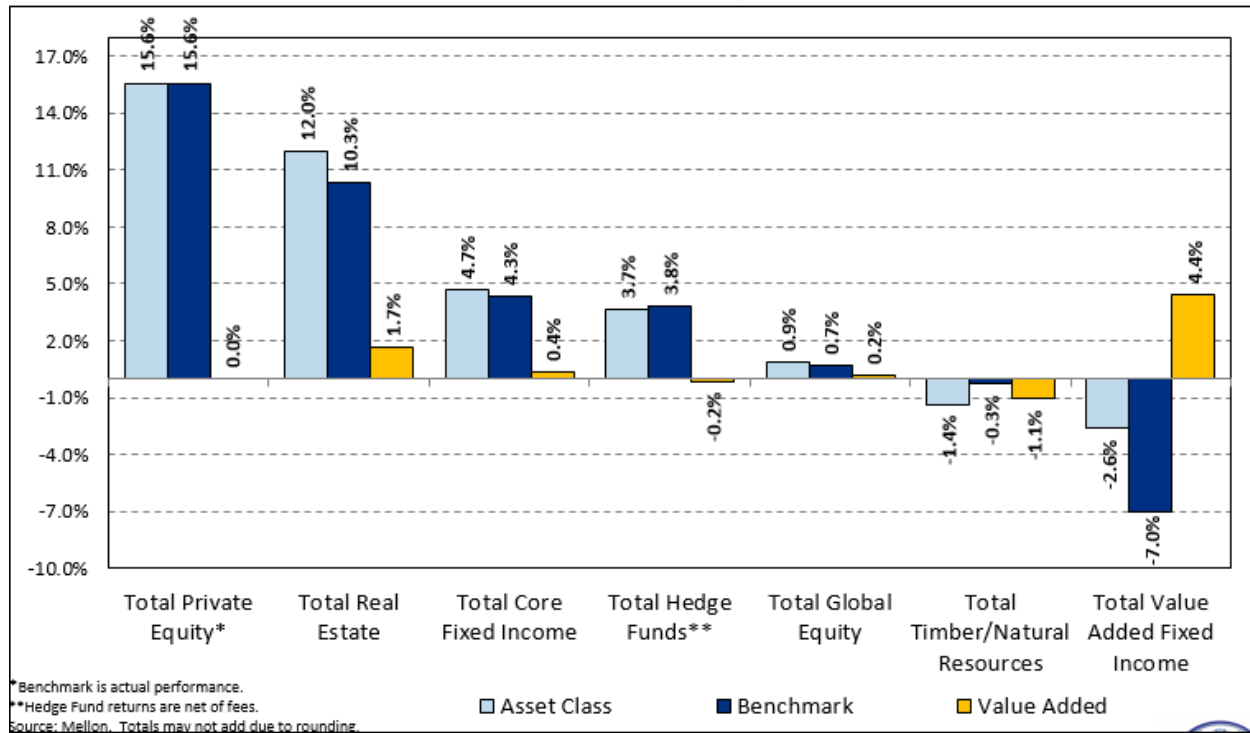
Total PRIT Fund Returns (Gross of Fees)

Annualized Returns as of June 30, 2015



PRIT Asset Class Performance (Gross of Fees)

One Year Ended June 30, 2015



PRIT Asset Class Performance (Gross of Fees)

Annualized Returns as of June 30, 2015

1 Year	3 Year	5 Year	10 Year
Private Equity 15.6%	Private Equity 18.7%	Private Equity 18.4%	Private Equity 16.9%
Real Estate 12.0%	Global Equity 13.7%	Real Estate 13.8%	Real Estate 8.6%
Core Fixed Income 4.7%	Real Estate 12.8%	Global Equity 12.7%	Value-Added Fixed Income 7.7%
Hedge Funds 3.7%	Hedge Funds 8.8%	Value-Added Fixed Income 7.0%	Global Equity 6.7%
Global Equity 0.9%	Timber / Natural Resources 6.2%	Hedge Funds 6.4%	Timber / Natural Resources 6.4%
Timber / Natural Resources (1.3%)	Value-Added Fixed Income 4.9%	Timber / Natural Resources 5.8%	Hedge Funds 4.9%
Value-Added Fixed Income (2.6%)	Core Fixed Income 3.3%	Core Fixed Income 4.7%	Core Fixed Income 4.7%

PRIT Core Fund Performance Summary
Gross of Fees Performance
Trailing 1-Year Performance as of June 30, 2015

Trailing 1-Year Performance: June 30, 2015	Return	Benchmark Return	Over/(Under) Benchmark (bps)	\$Value (millions)	% of PRIT Fund
Total PRIT Fund	3.9%	2.7%	113	61,174	100%
Total Global Equity	0.9%	0.7%	19	26,098	42.7%
<i>Domestic Equity</i>	<i>6.8%</i>	<i>7.1%</i>	<i>(37)</i>	<i>11,745</i>	<i>19.2%</i>
<i>International Developed</i>	<i>-2.8%</i>	<i>-4.5%</i>	<i>178</i>	<i>10,341</i>	<i>16.9%</i>
<i>Emerging Markets</i>	<i>-5.9%</i>	<i>-3.9%</i>	<i>(193)</i>	<i>4,011</i>	<i>6.6%</i>
Private Equity	15.6%	15.6%	0	6,936	11.3%
Real Estate	12.0%	10.3%	167	6,093	10.0%
Timberland/Natural Resources	-1.4%	-0.3%	(107)	2,347	3.8%
Hedge Funds	3.7%	3.8%	(16)	5,575	9.1%
Value Added Fixed Income	-2.6%	-7.0%	441	5,053	8.3%
Core Fixed Income	4.7%	4.3%	38	8,378	13.7%

PRIT Performance (Gross) Summary June 2015

One-Year (June 30, 2015)

- For the one-year ended June 30, 2015, the PRIT Fund was up 3.9%, outperforming the total core benchmark of 2.7% by 113 basis points.
- The performance equates to an investment gain of \$2.35 billion
- The outperformance equates to \$684 million of value above the benchmark return.
- Net total outflows to pay benefits for the one-year ended June 30, 2015 were approximately \$1.5 billion
- Five of the seven major asset classes outperformed their respective benchmarks.

Calendar Year to Date (June 30, 2015)

- For the CYTD ended June 30, 2015, the PRIT Fund was up 2.6%, outperforming the total core benchmark of 2.6% by 4 basis points.
- The performance equates to an investment gain of \$1.58 billion
- The outperformance equates to \$24 million of value above the benchmark return.
- Net total outflows to pay benefits for the CYTD ended June 30, 2015 were approximately \$939 million
- Three of the seven major asset classes outperformed their respective benchmarks.

Fiscal Year to Date (June 30, 2015)

- For the fiscal-year ended June 30, 2015, the PRIT Fund was up 3.9%, outperforming the total core benchmark of 2.7% by 113 basis points.
- The performance equates to an investment gain of \$2.35 billion
- The outperformance equates to \$684 million of value above the benchmark return.
- Net total outflows to pay benefits for the one-year ended June 30, 2015 were approximately \$1.5 billion
- Five of the seven major asset classes outperformed their respective benchmarks.

Market Analysis

Constance M. Everson, CFA, gave an update on market developments. She focused on 3 situations in particular: (1) Slow economic conditions, contrary to widespread expectations, which raised the risk that investors might finally stop believing forecasts of a future-period rebound. So far, even the strongest data releases were very moderate in an historical context, and few of them showed follow-through the following month. (2) Further narrowing of an already-narrow stock market, typical of peak-zone behavior, and (3) symptoms of tight market liquidity conditions that can exacerbate market moves. Those symptoms include repo rates, the LIBOR/treasury spread, and a version of the Chicago Financial Conditions Index that measures just trading conditions.

Discussion followed about delays to-date in Fed rate hikes, as "reality has intervened" since first discussions of rate hikes the previous year, and the potential difficulty of even achieving a change in policy rates, now that credit is far more collateral-based than reserve-based. Discussion followed also about 2 key indicators that would change the outlook for the stronger, if they were to improve. Those indicators would be faster wage growth, and faster credit flow, especially household credit.

III. Public Markets Portfolio Update.

Sarah N. Samuels, CFA, Deputy Chief Investment Officer provided the committee with an update on the public markets portfolio. For the year ended June 30, 2015, global equities rose 0.9%, outperforming the benchmark return by 20 basis points. Within global equities, returns were driven by US large cap equities (+7.6%), followed by US SMID cap equities (+3.3%), developed non-US equities (-2.8%), and emerging market equities (-5.9%). Two of the four equity asset classes outperformed their benchmarks. Within fixed income, returns were led by 20+ Year STRIPS (+8.9%), bank loans (+2.8%), core fixed income (Barclays Agg) (+2.6%), TIPS/inflation-linked bonds (+1.7%), and high yield (+0.6%), while EMD \$ (-3.5%) and EMD local currency (-15.3%) fell. Five of the seven fixed income asset classes outperformed their benchmarks.

IV. Investment Research Update: Foreign Currency Hedging.

Sarah N. Samuels, CFA and Andre C. Clapp, Ph.D., CFA presented their research on the empirical findings and practical implications of implementing a developed market foreign currency hedging strategy. While foreign currency hedging can reduce volatility of the asset class, there are several practical and operational considerations that make hedging prohibitively expensive, including transaction costs, large cash flows, forced buying and selling, and counterparty risk. The committee was complimentary and suggested a white paper on the topic.

V. Hedge Fund Portfolio Update.

Eric R. Nierenberg, Ph.D., Senior Investment Officer—Director of Hedge Funds and Low Volatility Strategies, provided the Investment committee with an update on the hedge fund portfolio. For fiscal year 2015, the total hedge fund portfolio returned 3.68%. On a risk-adjusted basis the results were quite strong, with a calculated Sharpe Ratio of 1.09 for the fiscal year. Over the trailing 3-year period the total hedge fund portfolio has outperformed its benchmark by 260 basis points per year, with an annualized net return of 8.8%. The managed account program continues to develop well. PRIM is on target to have more than \$1.5 billion in these separate accounts across Hedge Funds and Portfolio Completion Strategies by the end of calendar year 2015.

VI. Private Equity Portfolio Update.

a. Performance Summary and Cash Flows.

Michael R. Bailey, Senior Investment Officer - Director of Private Equity, reviewed private equity performance with the committee. As of June 30, 2015, the net IRR of the private equity portfolio was 13.23%, and the quarterly net cash flow was \$288.1 million.

b. Private Equity Commitment Summary.

Mr. Bailey informed the committee that the total private equity commitments for the calendar year were \$987 million, with \$713 million remaining to be committed. Alternative fixed income commitments for the calendar year were \$375 million, with \$325 million remaining to be committed.

The meeting of the PRIM Investment Committee adjourned at 11:40 a.m.

List of documents and other exhibits used at the meeting:

- *PRIM Investment Committee Meeting Expanded Agenda (July 21, 2015).*
- *Minutes of the PRIM Investment Committee Meeting of May 19, 2015.*
- *Callan PRIT Fund Performance Report Color Charts.*
- *BNY Mellon Gross of Fees Performance Report.*
- *Callan Investment Measurement Service Monthly Review.*
- *Foreign Currency Hedging Research.*
- *Handout – PRIT Fund Performance and Public Markets Detail (June 30, 2015).*
- *Handout – BNY Mellon Gross of Fees Performance Report (June 30, 2015).*
- *Handout – Constance M. Everson - Market Analysis Commentary Charts.*

(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix B

Callan PRIT Fund Performance Report Color Charts

*PRIM Investment Committee Meeting
Monday, September 21, 2015*

(This page was intentionally left blank.)



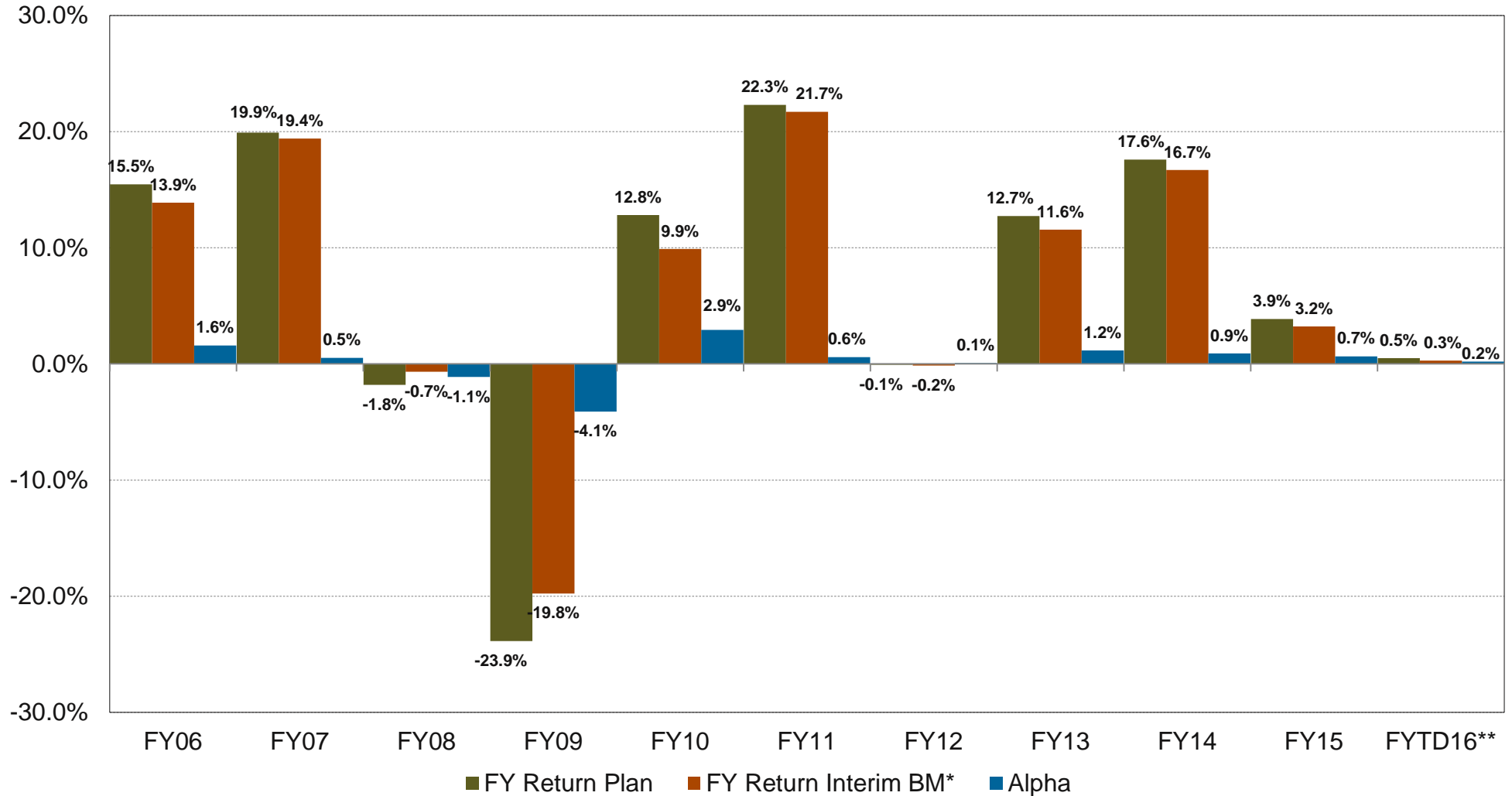
Commonwealth of Massachusetts Pension
Reserves Investment Management Board

PRIT Fund Performance Report

Gross of Fees for Period ending
July 31, 2015

Total PRIT Fund Fiscal Year Performance

Gross of Fees

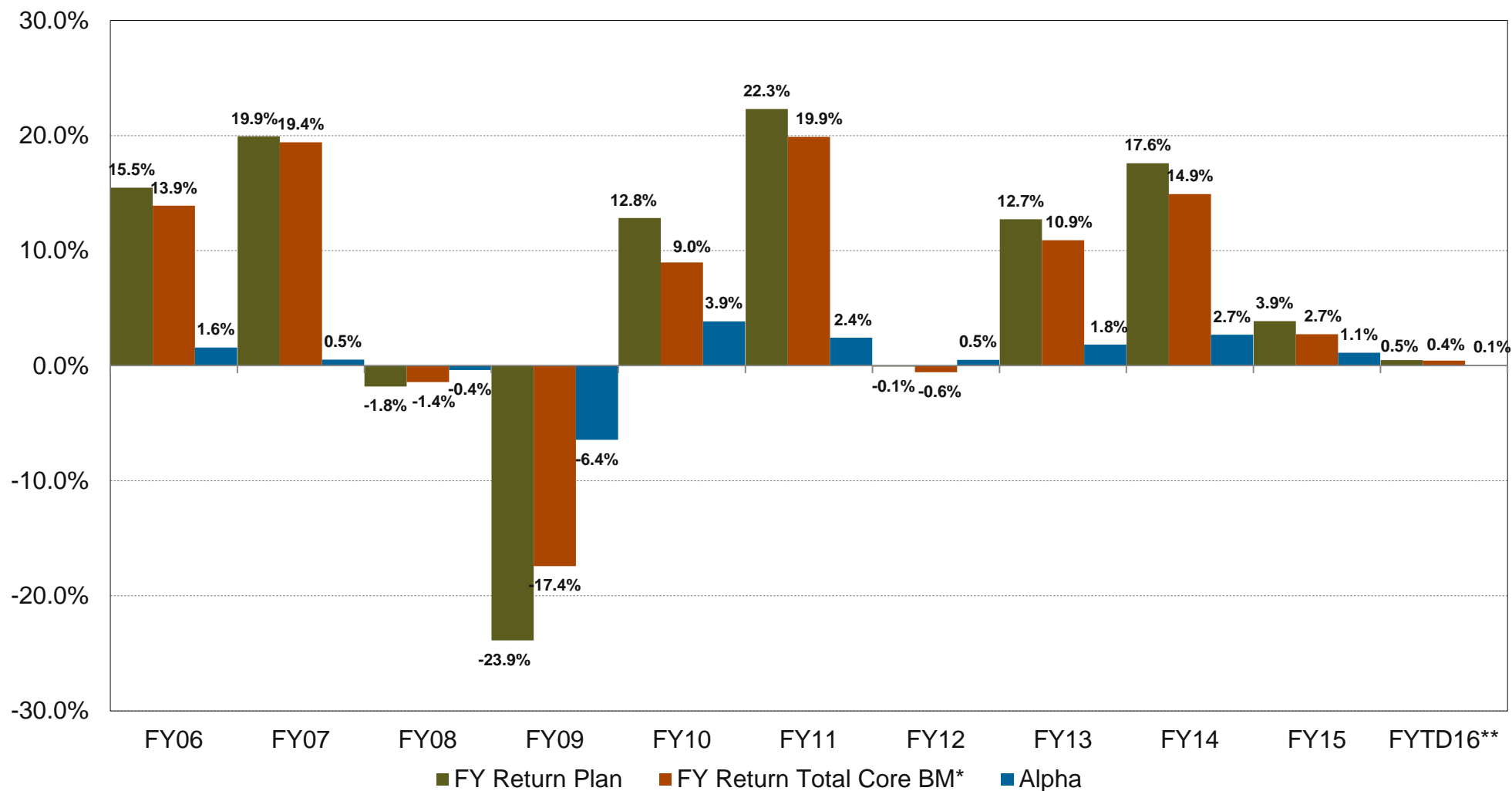


*Excludes Private Equity Benchmark

**As of July 31, 2015

Total PRIT Fund Fiscal Year Performance

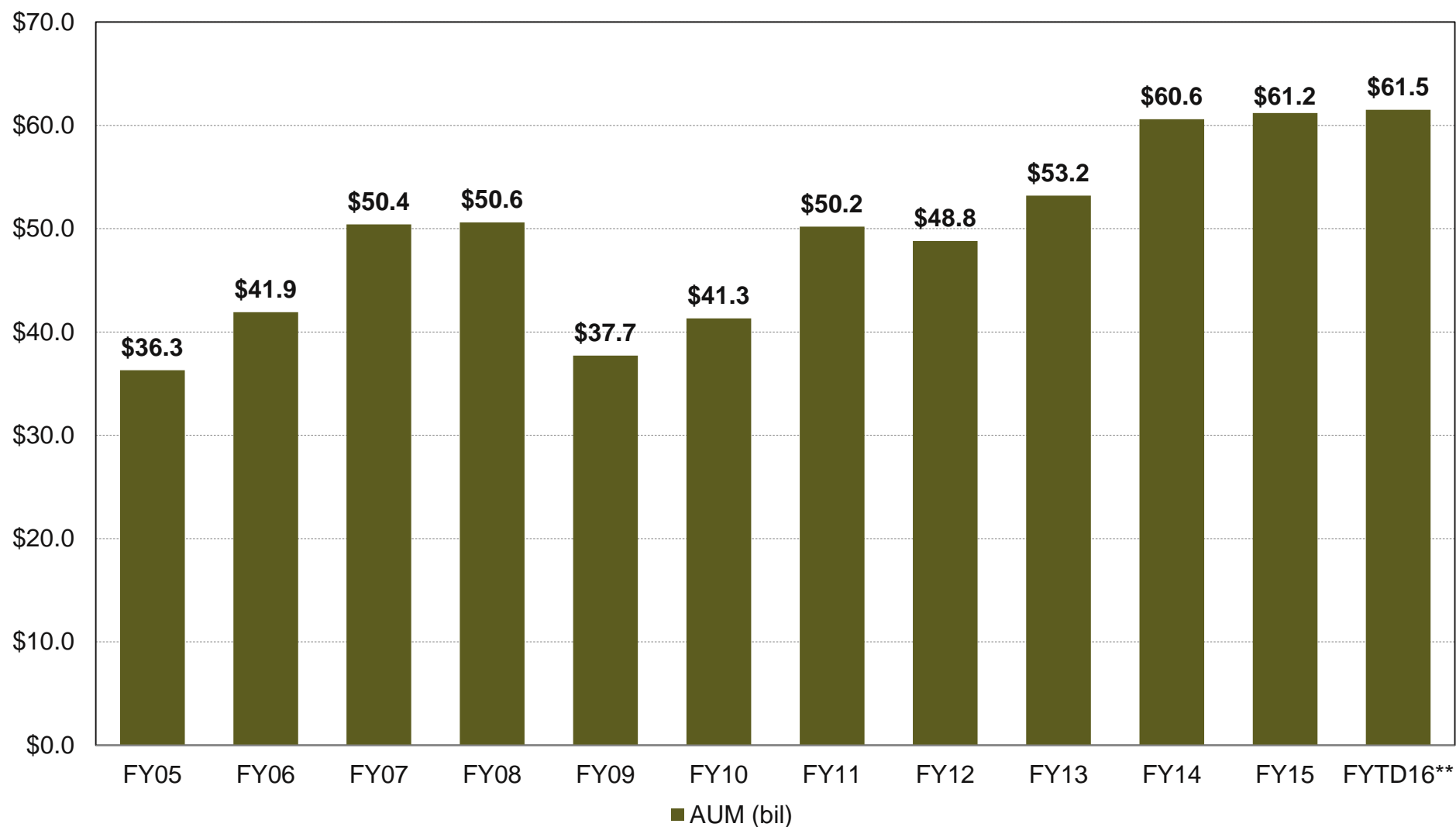
Gross of Fees



*Includes Private Equity Benchmark

**As of July 31, 2015

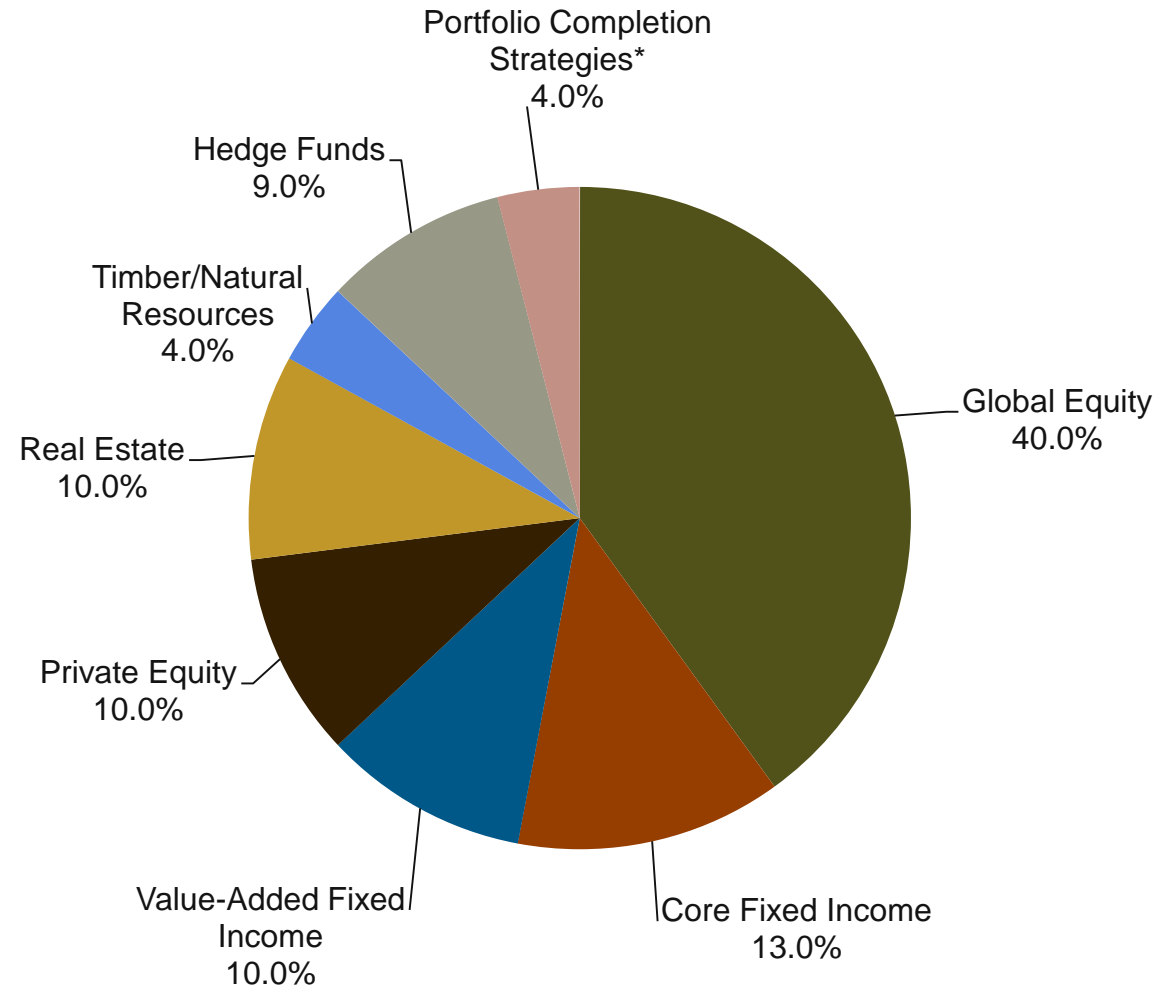
Total PRIT Fund Fiscal Year Market Value (\$Billions)



**As of July 31, 2015

PRIT Fund Asset Allocation

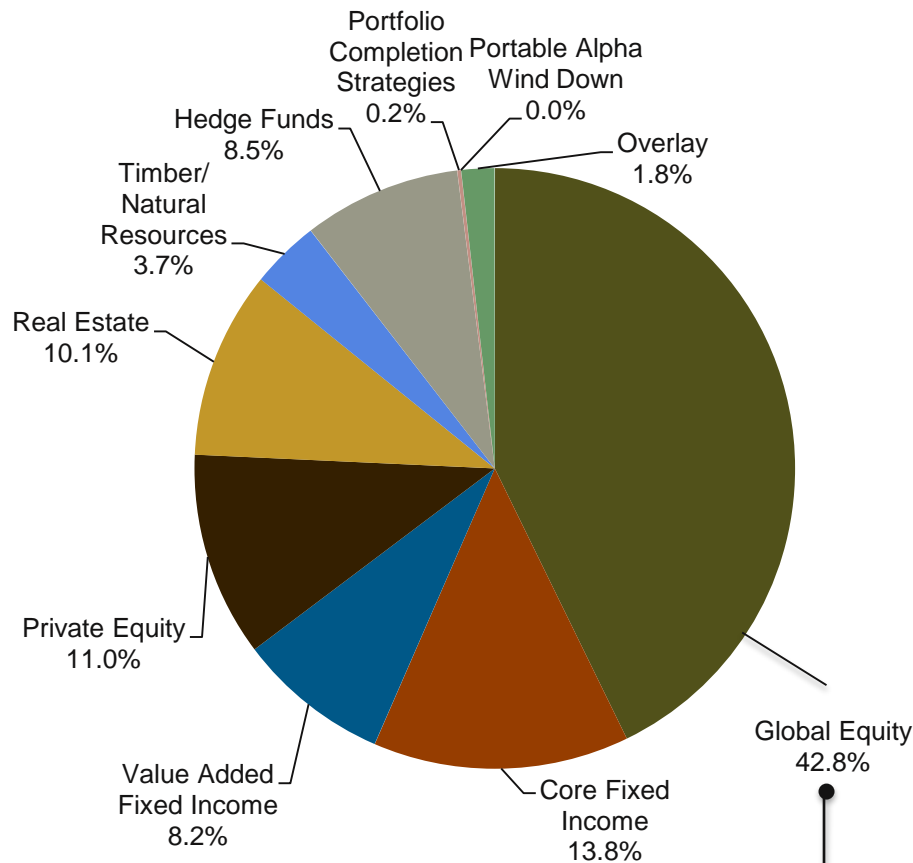
Long-Term Asset Allocation Targets



**Portfolio Completion Strategies (PCS) to be funded from Global Equities and Hedge Funds as new PCS investment strategies are recommended by PRIM Staff and approved by the Board.*

PRIT Fund Asset Allocation

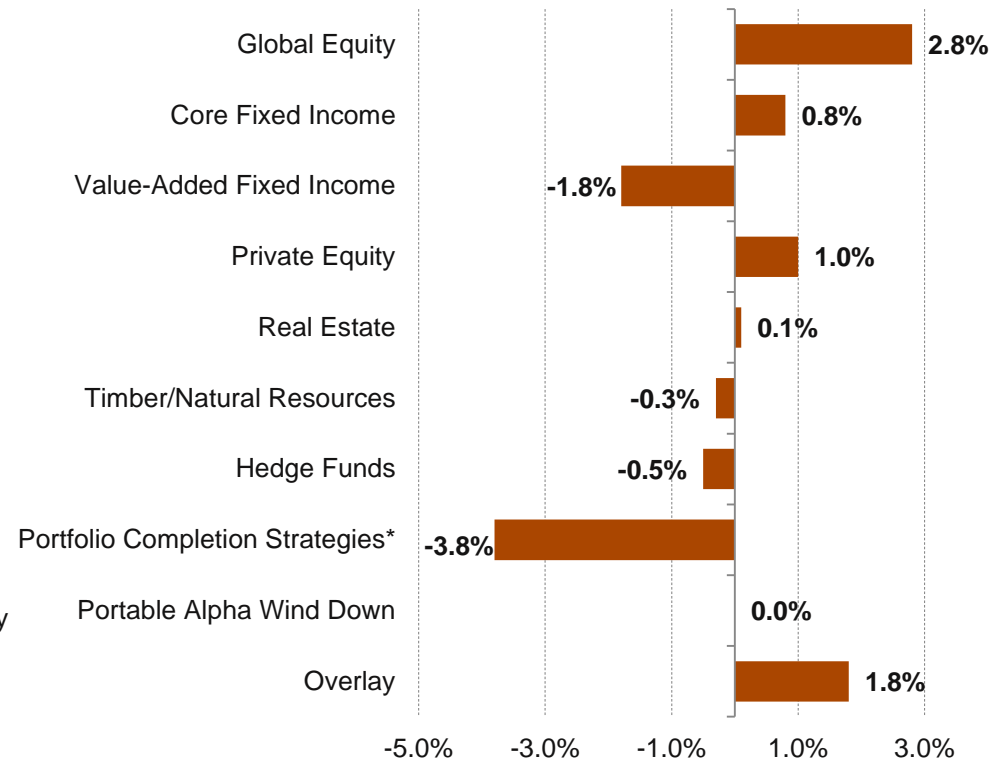
Actual Allocation as of July 31, 2015



Global Equity Breakdown

Domestic Equity	19.2%
International Equity	17.1%
Emerging Markets Equity	6.5%

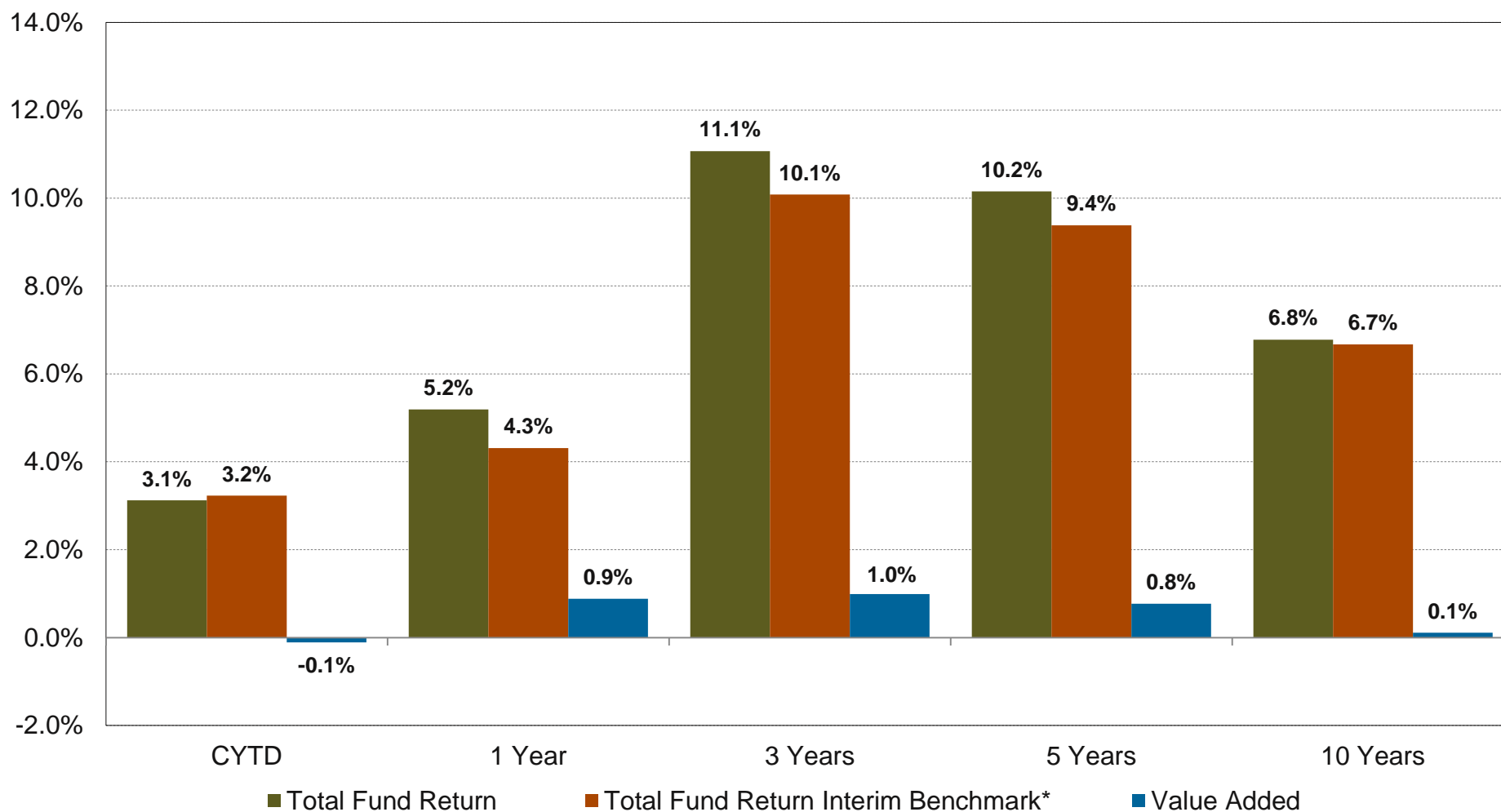
Actual Allocation vs. Target Allocation



*Portfolio Completion Strategies (PCS) to be funded from Global Equities and Hedge Funds as new PCS investment strategies are recommended by PRIM Staff and approved by the Board.

Total PRIT Fund Performance (\$61.5 Billion in Assets)

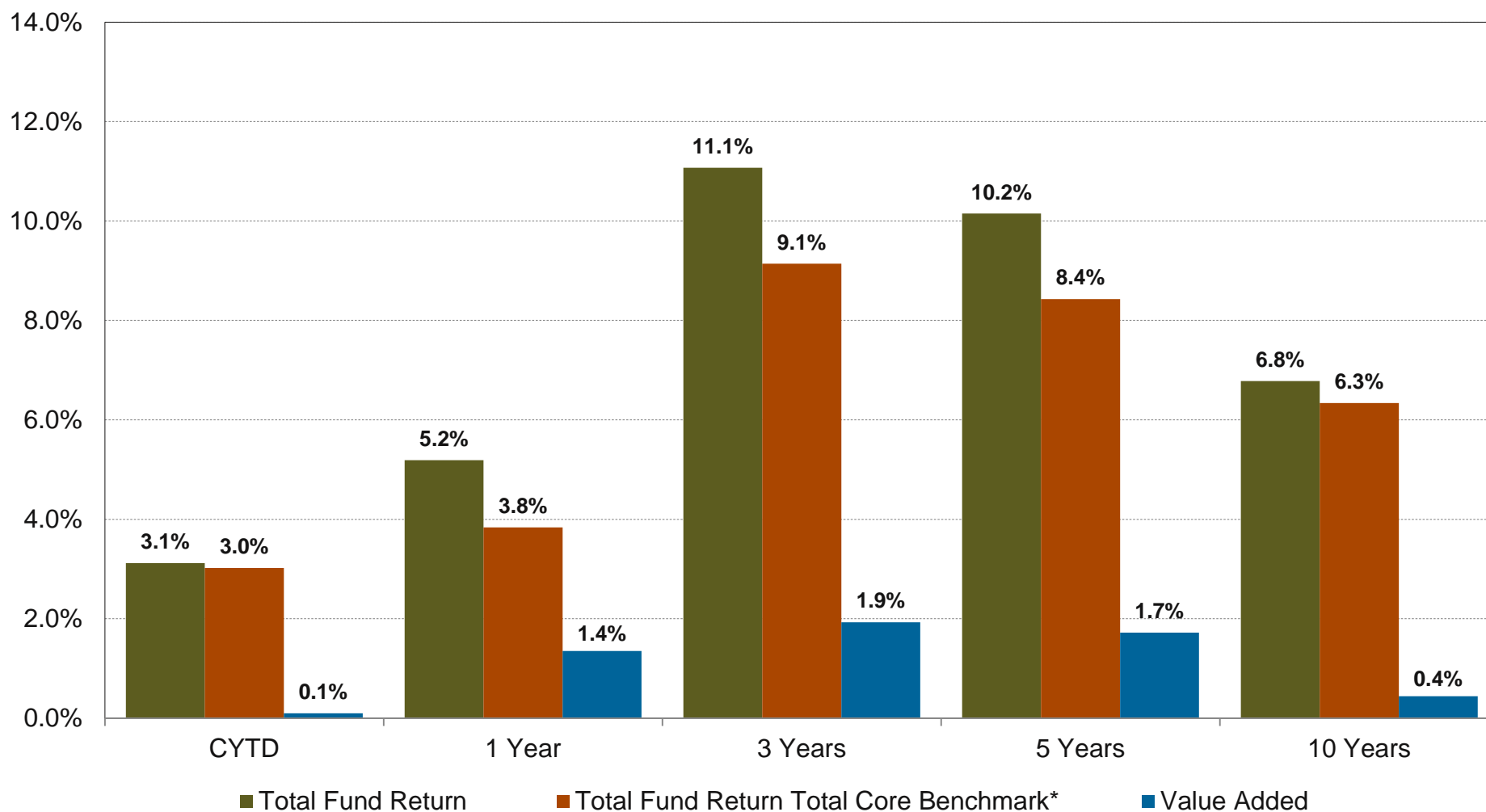
Gross of Fees as of July 31, 2015



**Excludes Private Equity Benchmark*

Total PRIT Fund Performance (\$61.5 Billion in Assets)

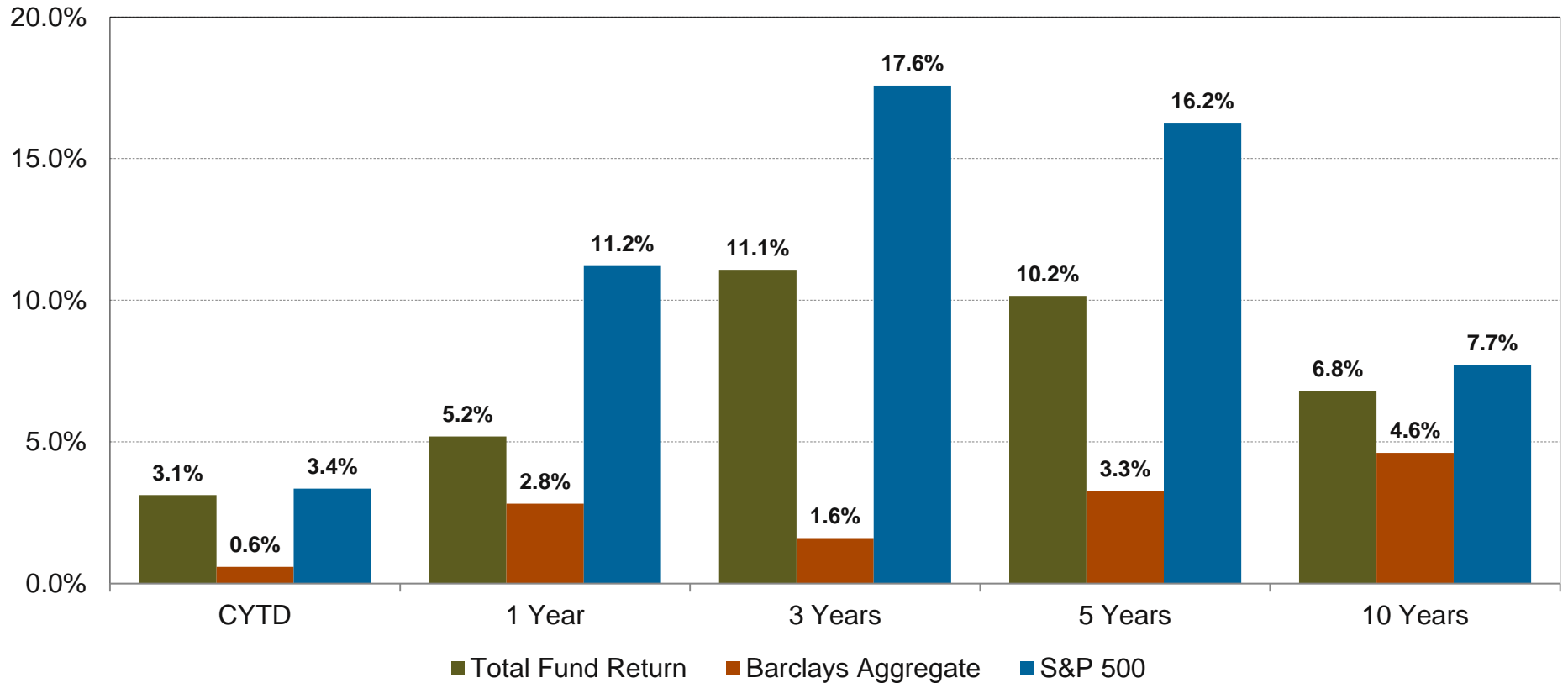
Gross of Fees as of July 31, 2015



**Includes Private Equity Benchmark*

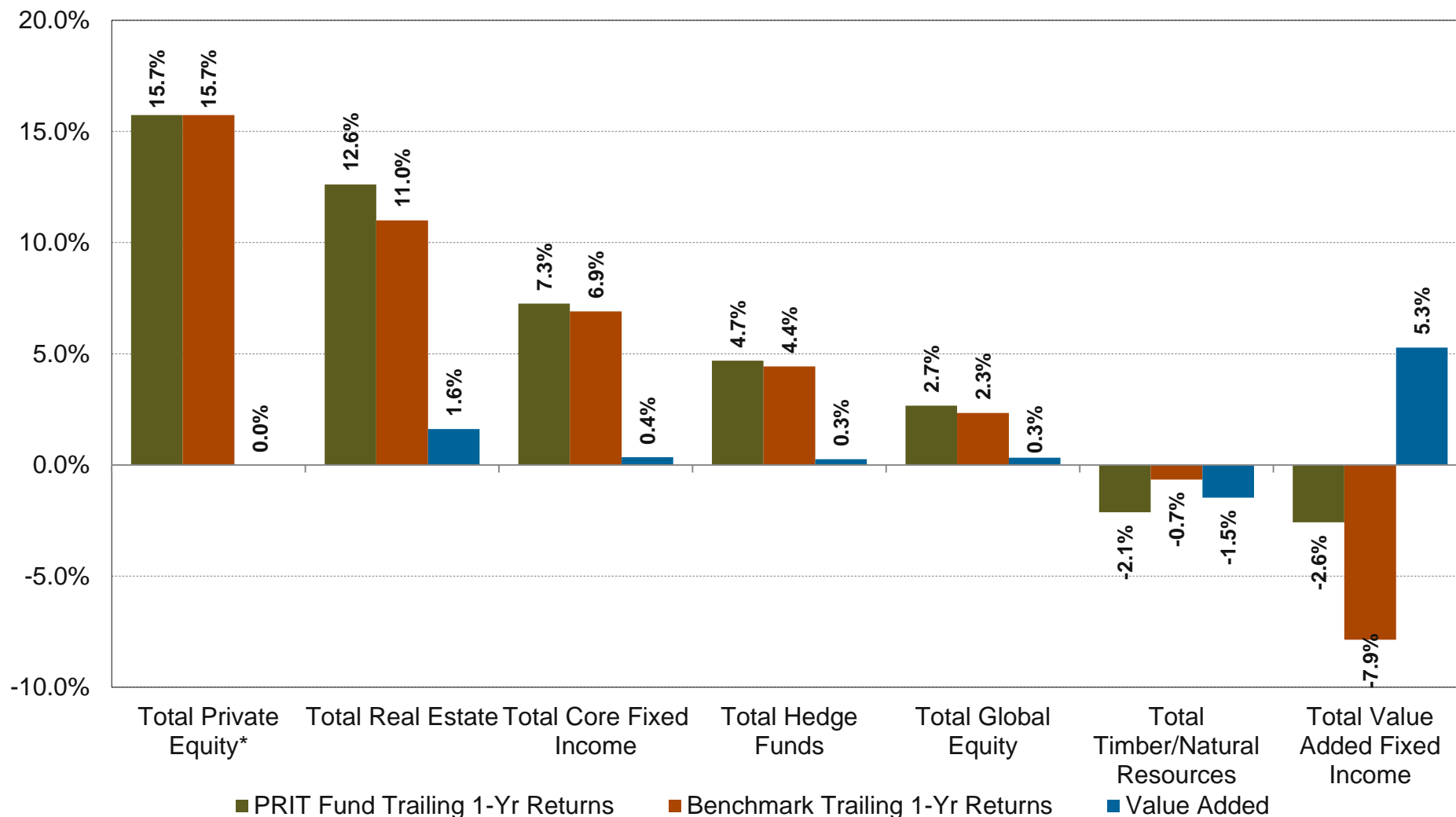
Total PRIT Fund Performance

Gross of Fees compared to Bonds and Stocks as of July 31, 2015



PRIT Asset Class Gross Performance – Trailing 1-Year

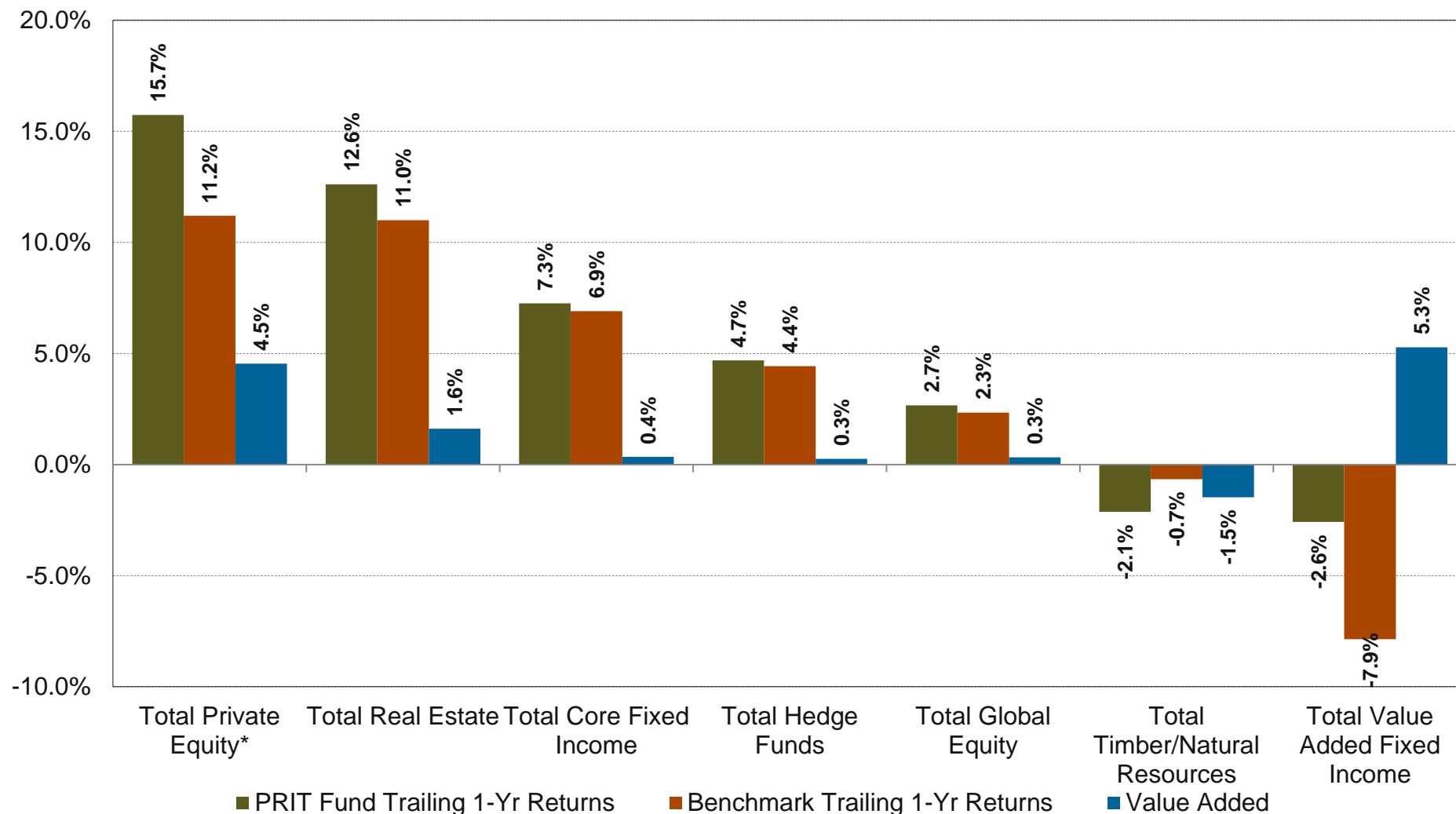
as of July 31, 2015



*Benchmark is actual performance

PRIT Asset Class Gross Performance – Trailing 1-Year

as of July 31, 2015



*Benchmark is 7yr Annualized Russell 3000 +3%

Total PRIT Fund Performance Attribution

Gross of Fees as of July 31, 2015

July Attribution

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Core Fixed Income	14%	13%	2.83%	2.86%	(0.00%)	0.02%	0.01%
Value Added Fixed Inc	8%	10%	(0.56%)	(1.61%)	0.09%	0.04%	0.13%
Real Estate	10%	10%	0.96%	0.69%	0.03%	(0.00%)	0.03%
Timber/Natural Resources	4%	4%	(1.85%)	(1.42%)	(0.02%)	0.00%	(0.01%)
Private Equity	11%	10%	(0.48%)	1.03%	(0.17%)	0.01%	(0.16%)
Overlay	1%	0%	0.48%	0.48%	0.00%	0.00%	0.00%
Portable Alpha	0%	0%	(0.98%)	(0.98%)	0.00%	(0.00%)	(0.00%)
Portfolio Completion Stra	0%	0%	3.43%	0.26%	0.00%	0.00%	0.00%
Global Equity	43%	43%	0.28%	0.22%	0.03%	0.00%	0.03%
Hedge Funds	9%	10%	0.46%	0.11%	0.03%	0.00%	0.03%
Total			0.49%	= 0.43%	+ (0.02%)	+ 0.07%	0.06%

One Year Attribution

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Core Fixed Income	15%	13%	7.26%	6.91%	0.05%	(0.02%)	0.03%
Value Added Fixed Income	8%	10%	(2.58%)	(7.86%)	0.49%	0.21%	0.69%
Real Estate	9%	10%	12.62%	11.00%	0.15%	(0.06%)	0.09%
Timber/Natural Resources	4%	4%	(2.13%)	(0.66%)	(0.06%)	(0.00%)	(0.06%)
Private Equity	11%	10%	15.74%	11.20%	0.47%	0.04%	0.52%
Overlay	1%	0%	3.48%	3.48%	0.00%	(0.01%)	(0.01%)
Portable Alpha	0%	0%	(5.04%)	(5.04%)	0.00%	(0.01%)	(0.01%)
Portfolio Completion Stra	0%	0%	(1.84%)	1.84%	(0.01%)	0.00%	(0.01%)
Global Equity	42%	43%	2.67%	2.34%	0.15%	(0.05%)	0.09%
Hedge Funds	9%	10%	4.69%	4.43%	0.02%	(0.01%)	0.01%
Total			5.19%	= 3.84%	+ 1.26%	+ 0.10%	1.36%

Total Global Equity Performance Attribution

Gross of Fees as of July 31, 2015

July Attribution

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	35%	35%	2.08%	2.10%	(0.00%)	(0.00%)	(0.00%)
Small/SMID Equity	10%	9%	(0.60%)	(0.52%)	(0.01%)	(0.01%)	(0.02%)
International Equity	40%	40%	1.45%	1.62%	(0.07%)	(0.01%)	(0.08%)
Emerging Equity	16%	16%	(5.89%)	(6.93%)	0.16%	(0.00%)	0.16%
Total			0.28% = 0.22% + 0.08% + (0.02%)				0.06%

One Year Attribution

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	36%	35%	11.39%	11.21%	0.06%	0.01%	0.07%
Small/SMID Equity	10%	9%	8.00%	10.93%	(0.26%)	(0.02%)	(0.29%)
International Equity	39%	40%	0.55%	(1.14%)	0.67%	0.02%	0.68%
Emerging Equity	16%	16%	(12.58%)	(12.27%)	(0.07%)	(0.06%)	(0.13%)
Total			2.67%	= 2.34%	+ 0.40%	+ (0.06%)	0.33%



Appendix

Gross of Fees Asset Class &
Manager Specific Performance

Major Contributors Gross Performance – Trailing 1-Year

as of July 31, 2015

	% of PRIT Fund	1-Year Relative Performance (BPS)	One Year	3 Years	5 Years	10 Years	Since Inception	Inception
DISTRESSED DEBT	2.2%	42.64	3.61	12.10	11.45	11.49	14.25	07/31/2001
Altman NYU Saloman Center Combined Defaulted Public Bond & Bank Loan Index			-15.70	3.46	3.74	6.81	10.82	
Value Added (bps)			1931	864	772	468	343	
MARATHON ASSET MANAGEMENT	4.1%	18.96	4.21	15.36	11.06	8.65	9.05	10/31/1996
Custom MSCI EAFE Standard Index Net Divs			-0.42	12.39	7.93	5.00	4.92	
Value Added (bps)			463	297	313	365	413	
DIRECT HEDGE FUNDS	6.7%	8.52	5.70	8.70			7.52	11/30/2011
HFRI Fund of Funds Composite Index			4.43	6.03	-	-	5.00	
Value Added (bps)			127	267	-	-	252	
SSGA WORLD EX-US	8.5%	5.83	-1.44	12.22	8.13	5.57	6.33	03/31/1992
Custom MSCI World Ex-US IMI Net Divs			-2.12	11.55	7.54	4.93	5.85	
Value Added (bps)			69	67	59	64	48	
INTECH	1.5%	4.83	14.47	18.79	17.14		8.38	01/31/2006
S&P 500			11.21	17.58	16.24	-	7.85	
Value Added (bps)			326	121	90	-	52	
MONDRIAN INVESTMENT	1.3%	3.15	1.94	14.09	9.27		1.81	06/30/2008
Custom MSCI EAFE Standard Index Net Divs			-0.42	12.39	7.93	-	0.95	
Value Added (bps)			236	170	134	-	86	
BAILLIE GIFFORD	3.0%	2.54	0.44	12.31	9.66	7.19	8.38	08/31/2004
Custom MSCI EAFE Standard Index Net Divs			-0.42	12.39	7.93	5.00	6.37	
Value Added (bps)			86	-8	173	219	201	
CENTERSQUARE GLOBAL REIT	1.3%	2.10	5.06	9.81			10.24	05/31/2012
FTSE EPRA NAREIT Developed Net Total Return			3.41	9.32	-	-	9.67	
Value Added (bps)			165	50	-	-	57	
LOOMIS SAYLES CORE	1.8%	1.88	3.85	3.19	4.73	5.45	7.51	05/31/1990
Barclays Capital Aggregate			2.82	1.60	3.27	4.61	6.53	
Value Added (bps)			102	160	146	85	98	
T. ROWE PRICE NR	0.3%	1.44	-24.33	1.39	2.21		-4.86	07/31/2008
Lipper Natural Resources Global Fund Index			-29.27	-2.74	-1.69	-	-8.27	
Value Added (bps)			494	413	389	-	341	

*The relative outperformance is calculated by multiplying the outperformance versus the benchmark times the allocation to the overall PRIT fund.

Major Detractors Gross Performance – Trailing 1-Year

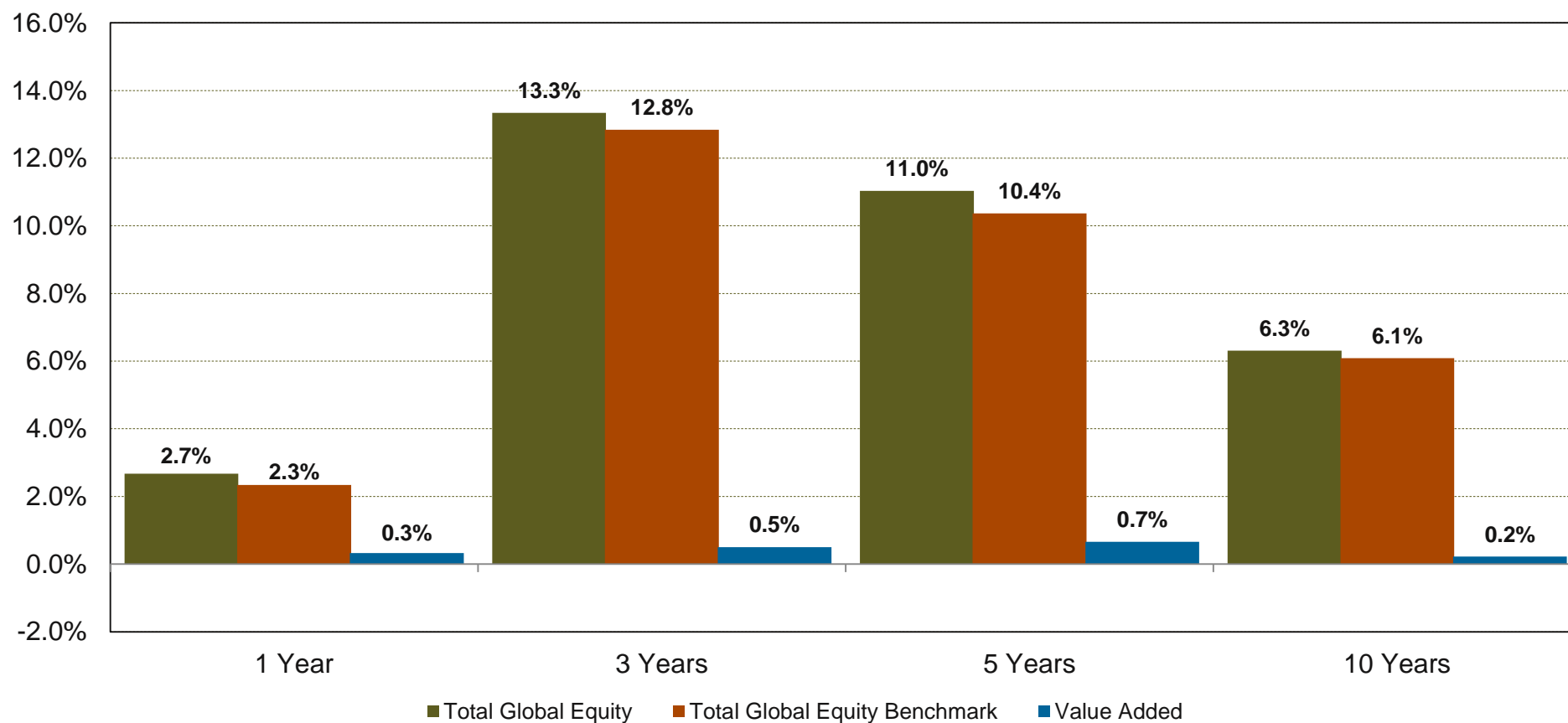
as of July 31, 2015

	% of PRIT Fund	1-Year Relative Performance (BPS)	One Year	3 Years	5 Years	10 Years	Since Inception	Inception
HUBER	0.4%	-5.93	-10.41				1.96	05/31/2013
Russell 2000 Value			4.30	-	-	-	9.71	
Value Added (bps)			-1472	-	-	-	-774	
PAAMCO	1.6%	-4.77	1.49	9.05	6.17	5.35	5.26	08/31/2004
100% HFRI Fund of Funds Composite Index			4.43	6.03	4.03	5.04	5.15	
Value Added (bps)			-294	302	214	30	11	
SOUTHERNSUN	0.2%	-3.53	-3.26				13.09	05/31/2013
Russell 2500			11.19	-	-	-	14.40	
Value Added (bps)			-1445	-	-	-	-132	
SSGA S&P 500	12.0%	-2.45	11.00	17.72			17.89	12/31/2011
S&P 500			11.21	17.58	-	-	17.79	
Value Added (bps)			-20	14	-	-	10	
JENNISON	0.3%	-2.42	-38.18	-6.04	-3.44		-6.76	07/31/2008
Lipper Natural Resources Global Fund Index			-29.27	-2.74	-1.69	-	-8.27	
Value Added (bps)			-891	-330	-176	-	151	
ASHMORE	0.8%	-1.63	-3.31	2.29	5.48	8.29	9.47	01/31/2004
JPM EMBI Global			-1.28	2.23	5.75	7.41	7.83	
Value Added (bps)			-203	6	-27	88	164	
SUMMIT CREEK	0.4%	-1.22	16.59				17.80	05/31/2013
Russell 2000 Growth			20.07	-	-	-	18.64	
Value Added (bps)			-348	-	-	-	-84	
STONE HARBOR	0.4%	-0.54	-17.89	-6.83			-6.58	05/31/2012
JPM GBI EM Global Diversified			-16.68	-5.31	-	-	-4.90	
Value Added (bps)			-122	-152	-	-	-168	
PIMCO EMD	0.5%	-0.47	-2.22	1.89	5.38	7.27	7.82	02/29/2004
JPM EMBI Global			-1.28	2.23	5.75	7.41	7.84	
Value Added (bps)			-94	-34	-37	-14	-1	
SSGA R2500	2.6%	-0.45	11.02	18.59			17.38	12/31/2011
Russell 2500			11.19	18.86	-	-	17.57	
Value Added (bps)			-18	-26	-	-	-19	

*The relative underperformance is calculated by multiplying the underperformance versus the benchmark times the allocation to the overall PRIT fund.

PRIT Global Equity (\$26.3 Billion)

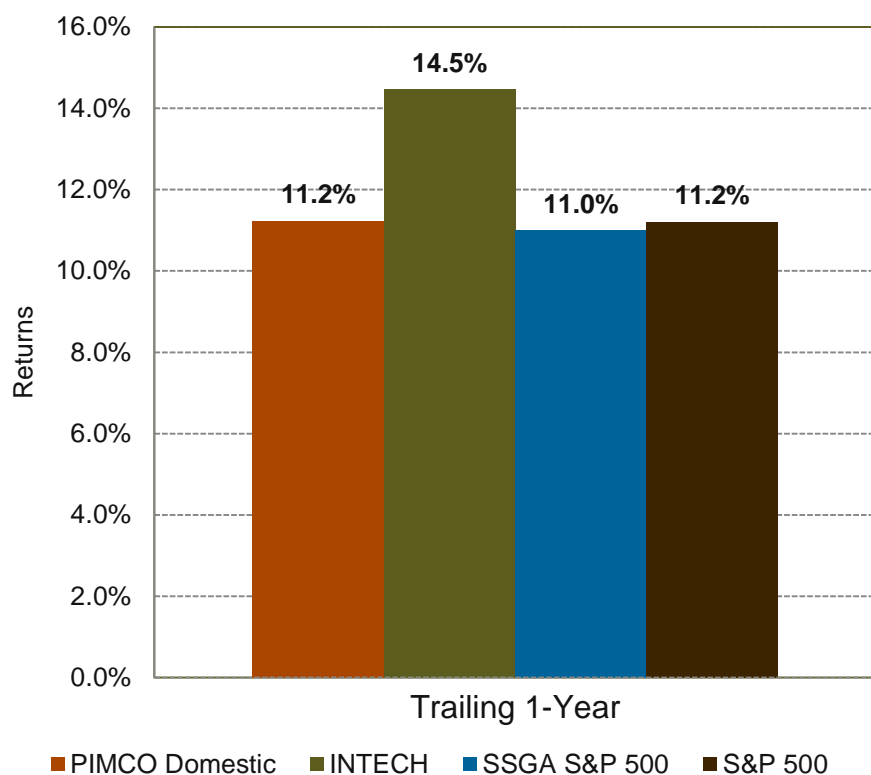
Gross of Fees Performance as of July 31, 2015



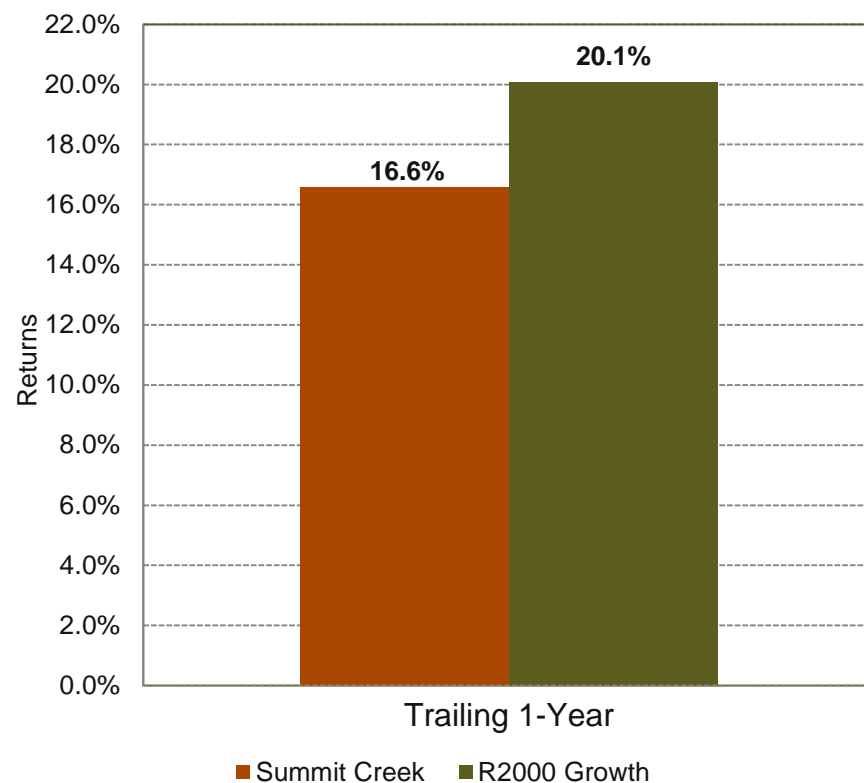
Domestic Equity Managers

as of July 31, 2015

Large Cap Managers vs. S&P 500



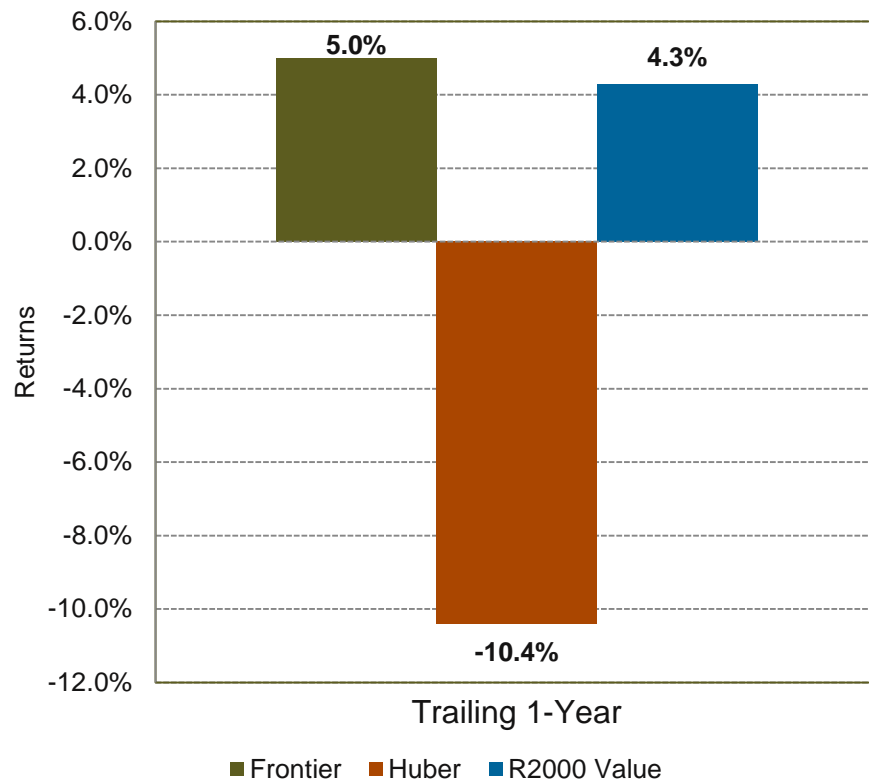
Small Cap Growth Manager vs. R2000 Growth



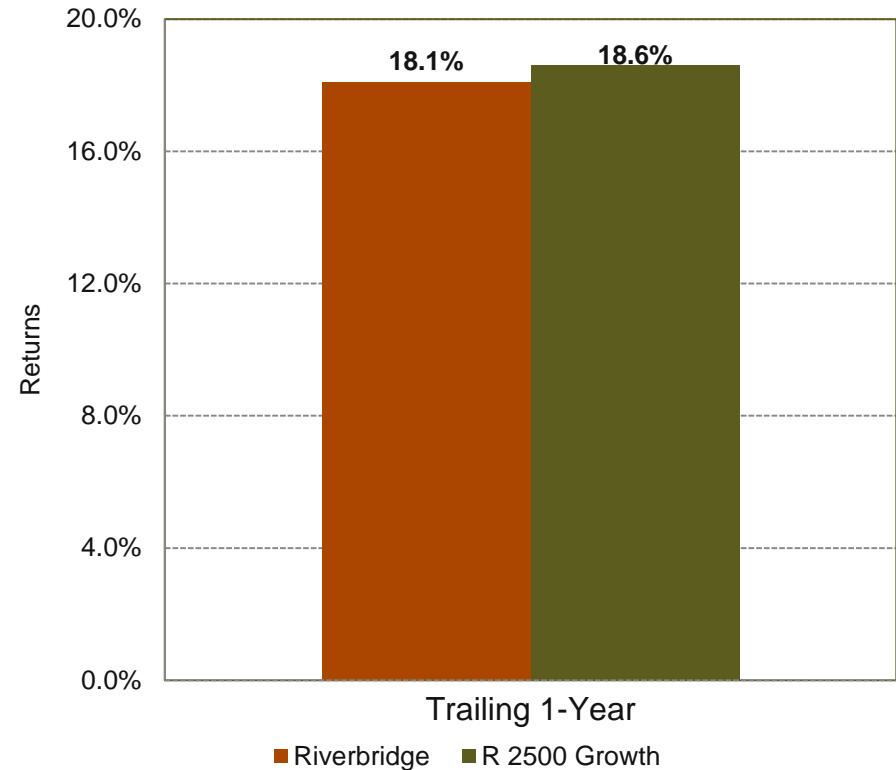
Domestic Equity Managers

as of July 31, 2015

Small Cap Value Managers vs. Russell 2000 Value



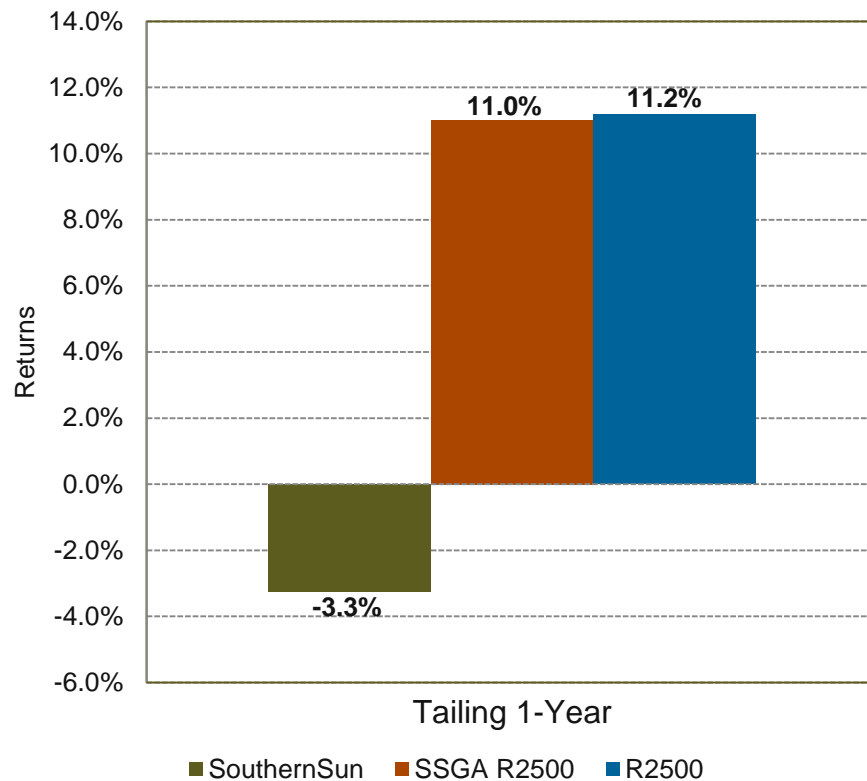
Smid Cap Growth Manager vs. Russell 2500



Domestic Equity Managers

as of July 31, 2015

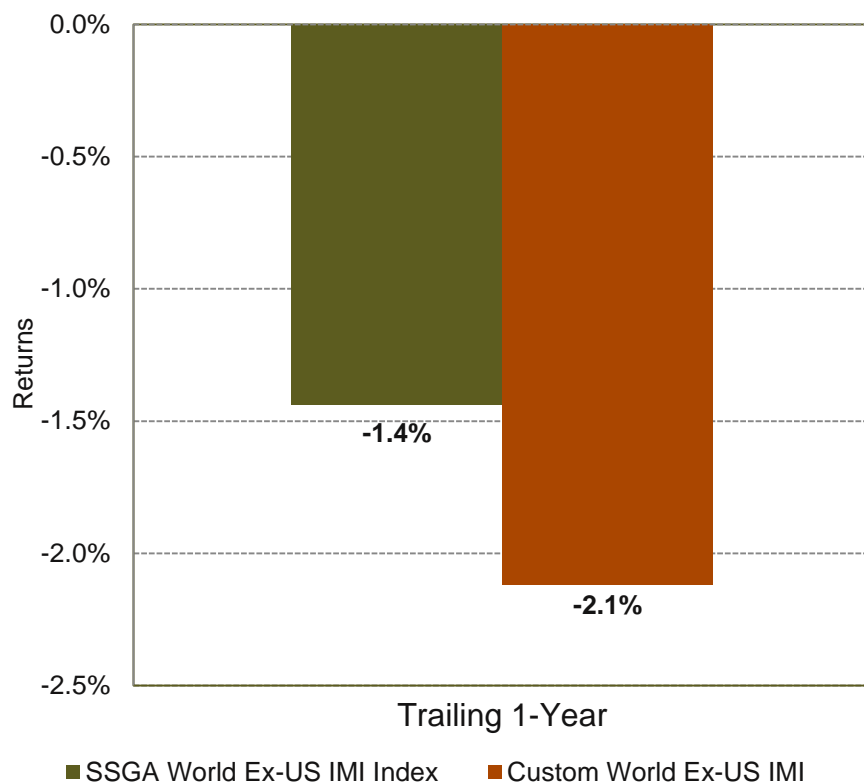
Smid Cap Core Managers vs. Russell 2500



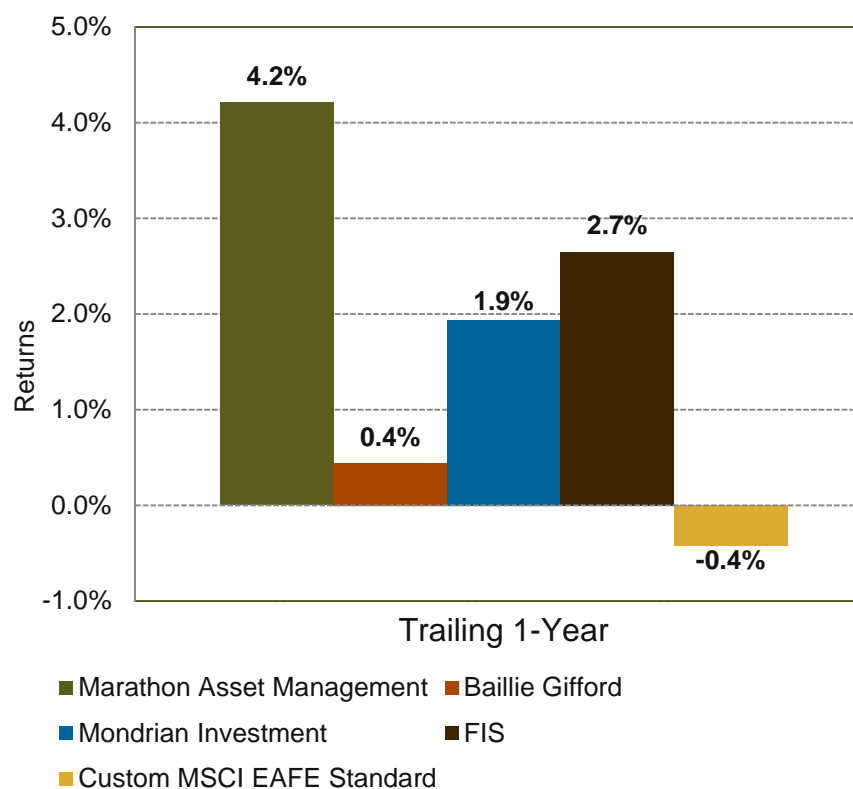
PRIT International Equity Managers

as of July 31, 2015

Versus World Ex-US IMI Index



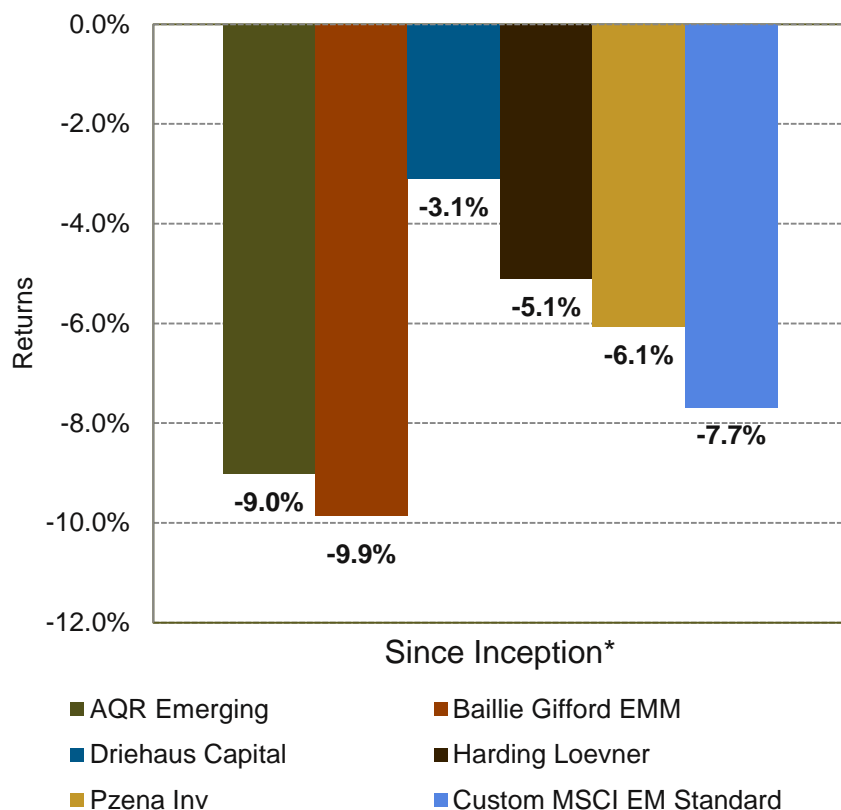
Versus MSCI EAFE Standard Index



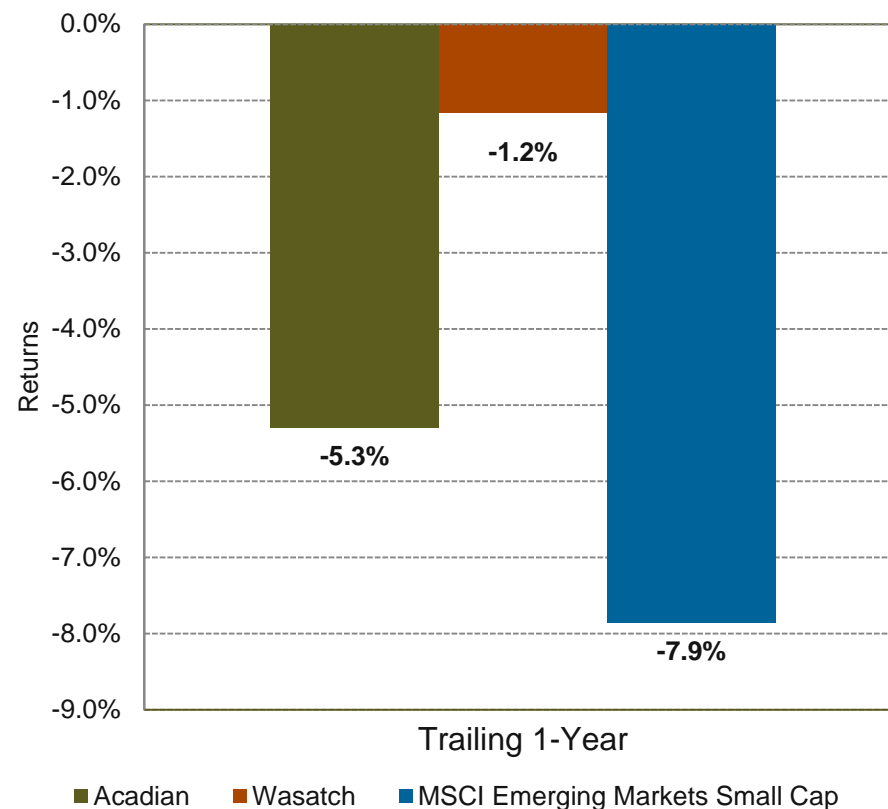
PRIT Emerging Markets Equity Managers

as of July 31, 2015

Versus MSCI Emerging Markets Standard Index



Versus MSCI Emerging Markets Small Cap Index

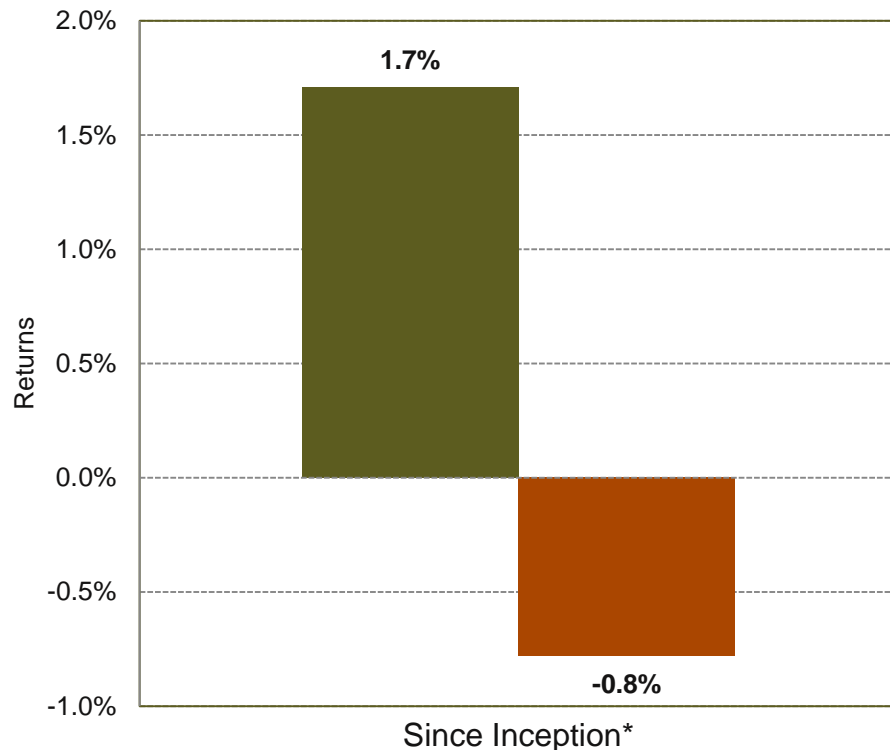


* "Since Inception" figure used due to lack of trailing 1-year returns.
Inception date of 3/31/2015 for AQR Emerging, Baillie Gifford EMM, Driehaus Capital, Harding Loevner and Pzena Inv.

PRIT Emerging Markets Equity Managers

as of July 31, 2015

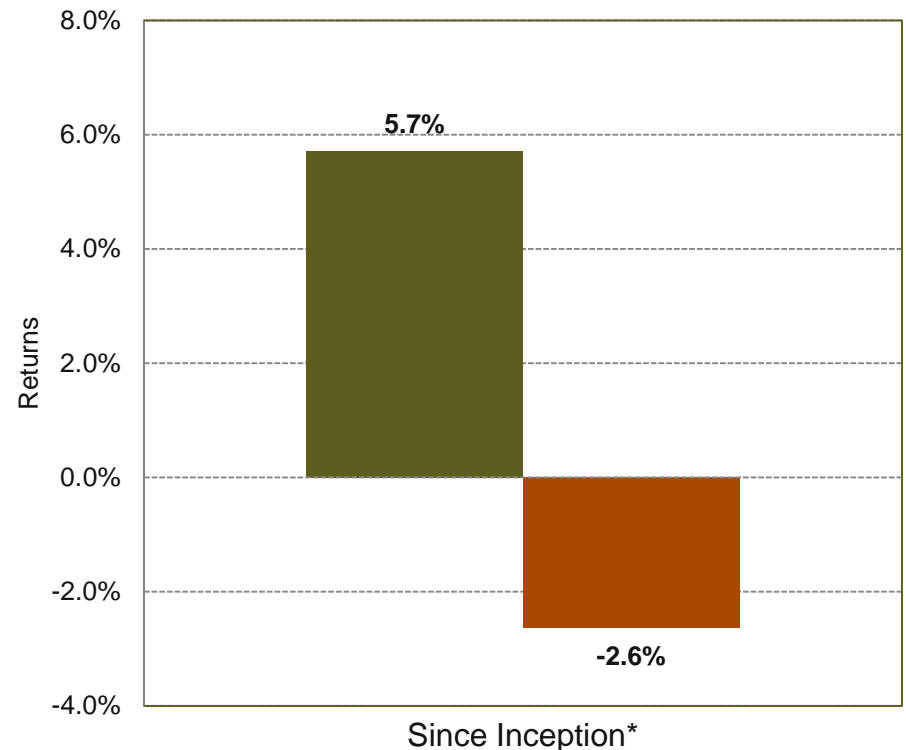
Versus MSCI Frontier Markets Country Capped Index



■ City of London ■ MSCI Frontier Markets Country Capped Net Divs

* "Since Inception" figure used due to lack of trailing 1-year returns. Inception date of 2/28/2015 for City of London.

Versus MSCI Frontier Markets Country Capped Index

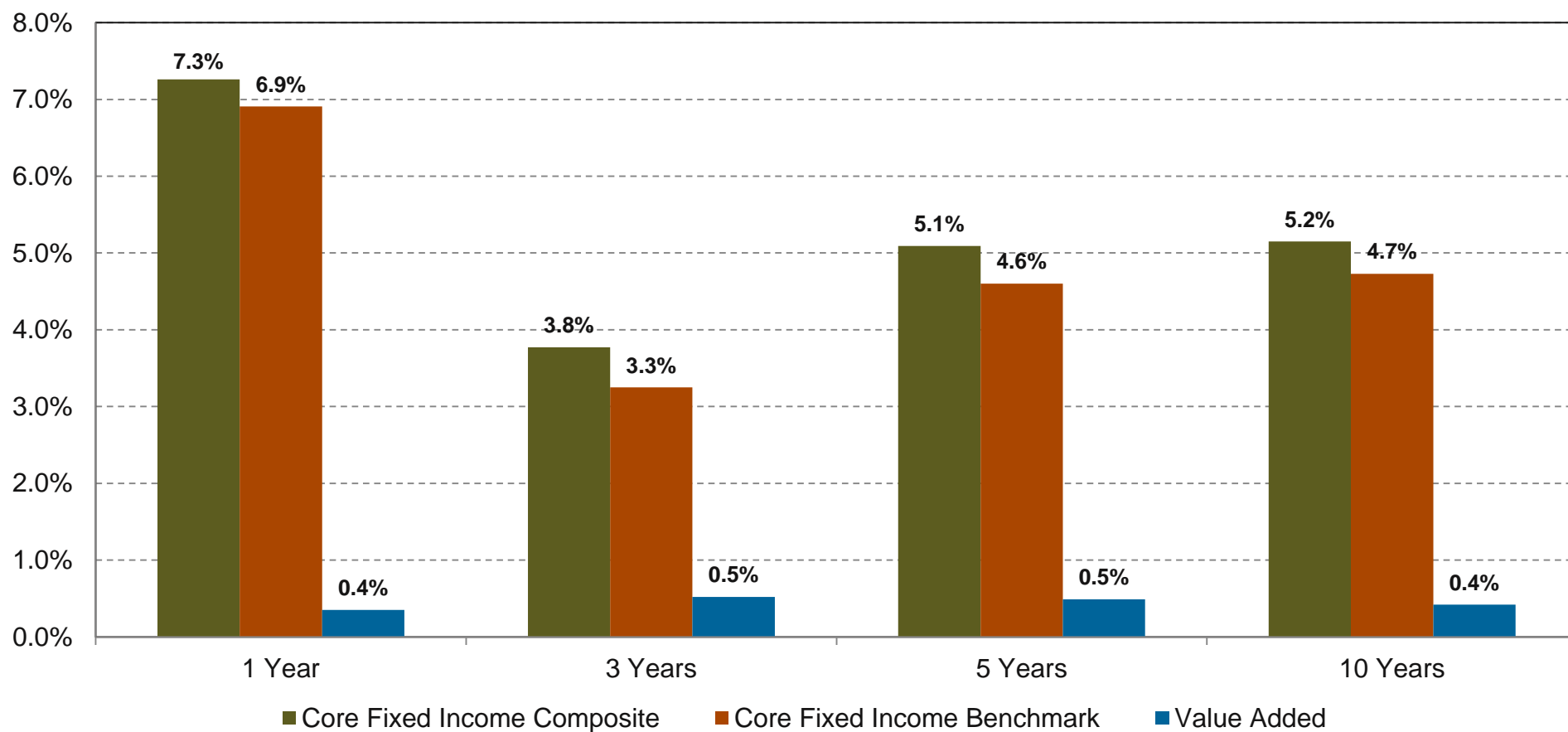


■ Acadian Frontier ■ MSCI Frontier Markets Country Capped Net Divs

* "Since Inception" figure used due to lack of trailing 1-year returns. Inception date of 4/30/2015 for Acadian Frontier.

PRIT Core Fixed Income (\$8.5 Billion)

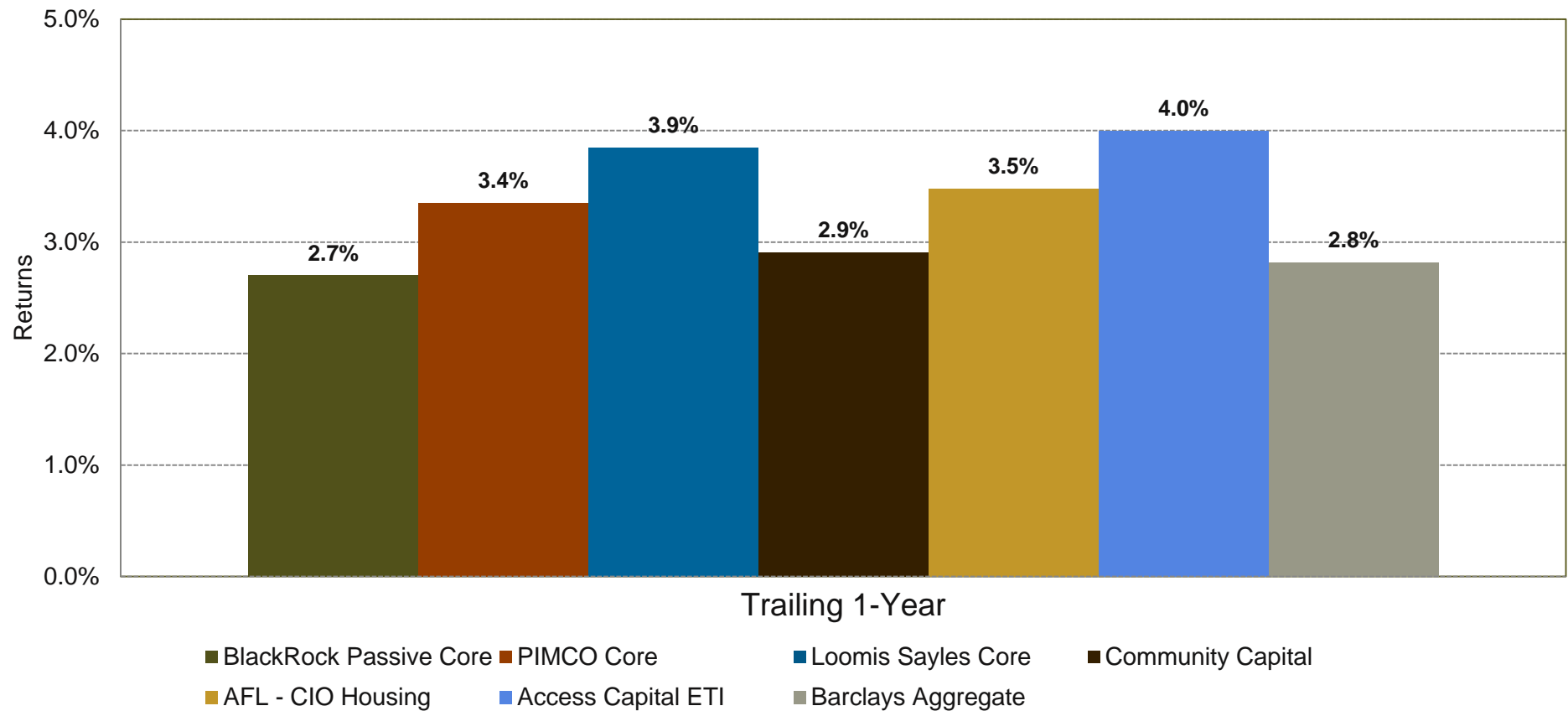
Gross of Fees Performance as of July 31, 2015



PRIT Fixed Income Managers

as of July 31, 2015

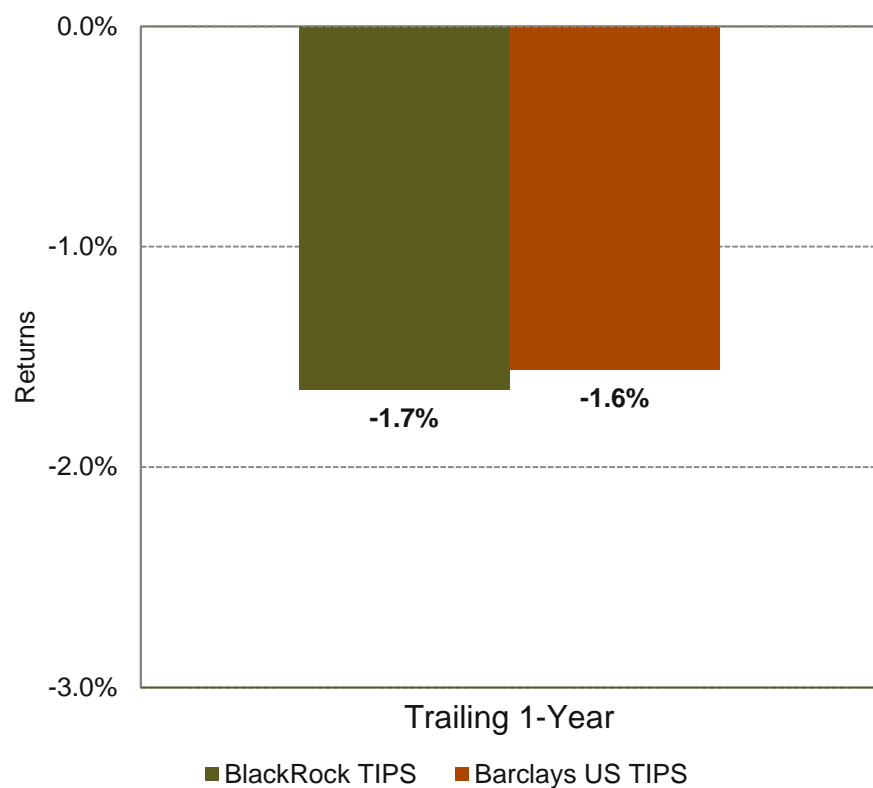
Versus Barclays Aggregate



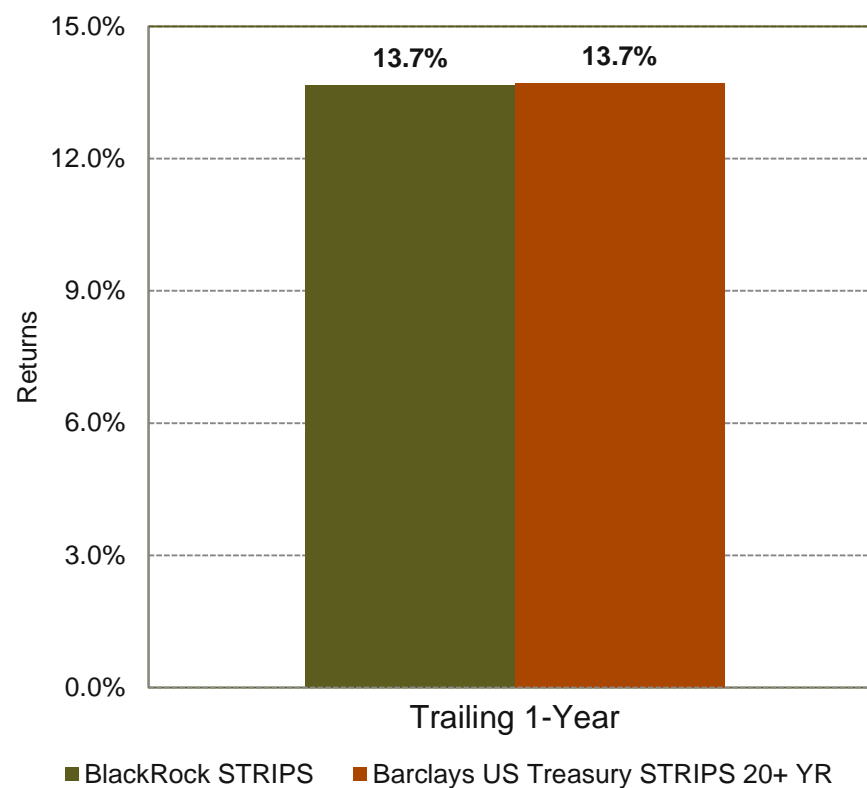
PRIT Fixed Income Managers

as of July 31, 2015

BlackRock Versus Barclays U.S. TIPS



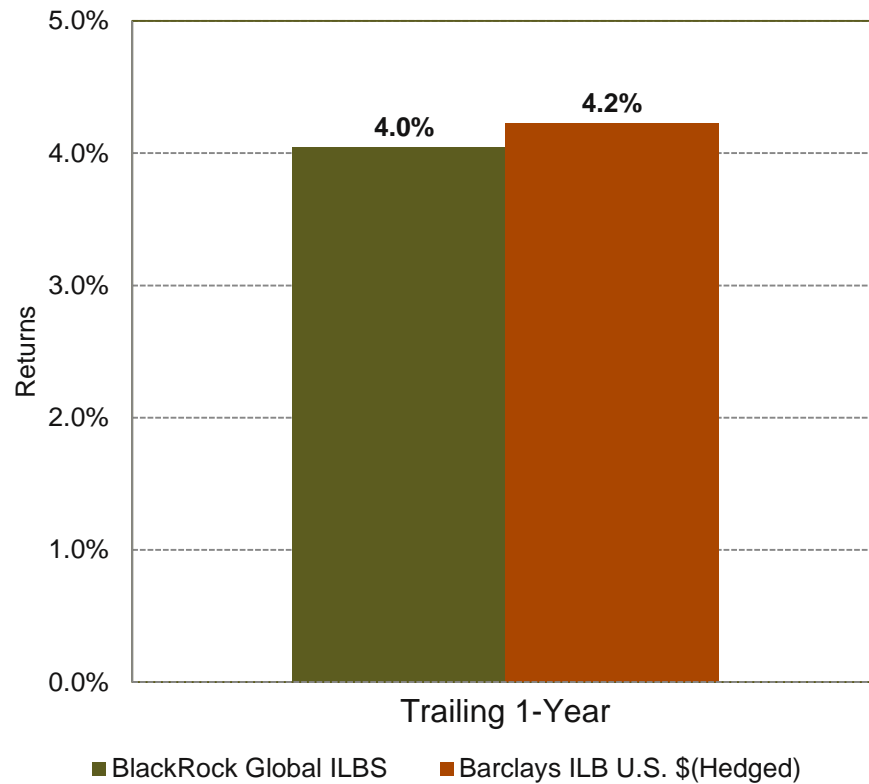
BlackRock STRIPS vs. BC U.S. Treasury STRIPS 20+ Year



PRIT Fixed Income Managers

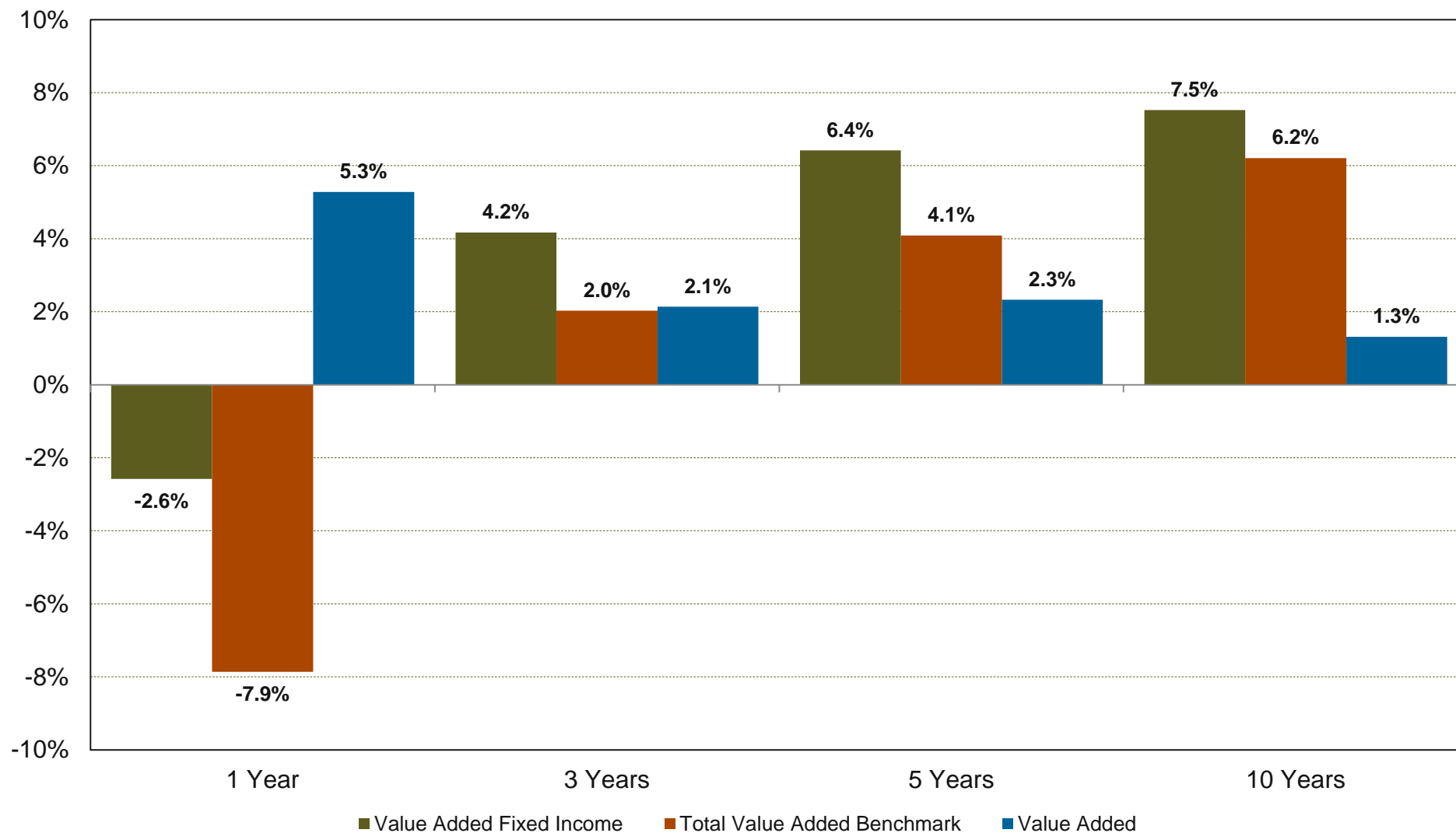
as of July 31, 2015

BlackRock Global vs. Barclays ILB U.S.\$ (Hedged)



PRIT Value Added Fixed Income (\$5.0 Billion)

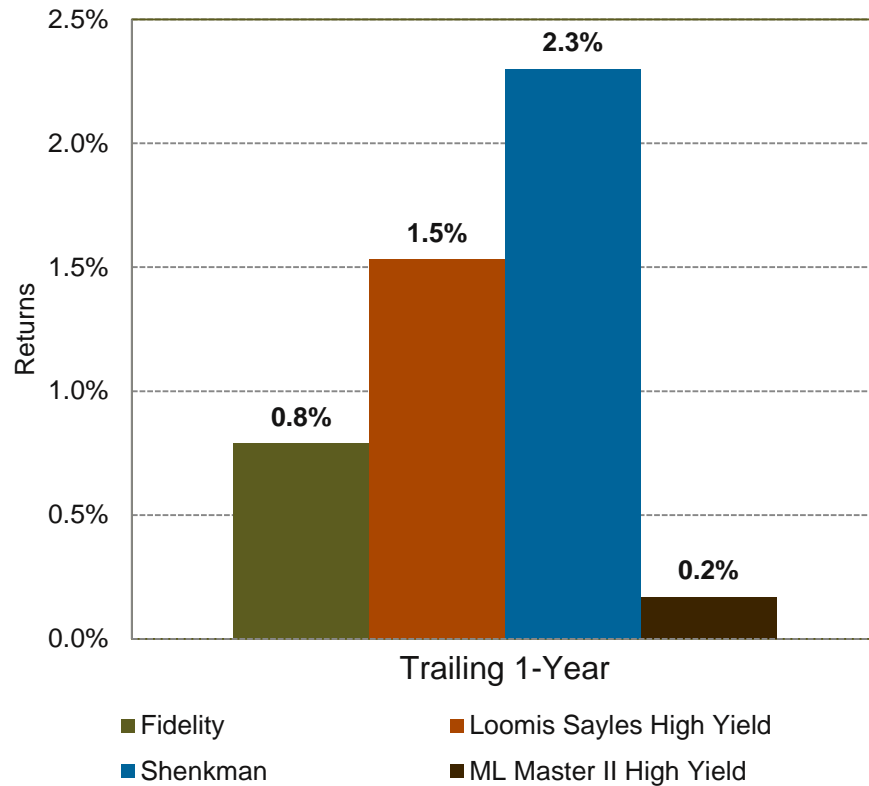
Gross of Fees Performance as of July 31, 2015



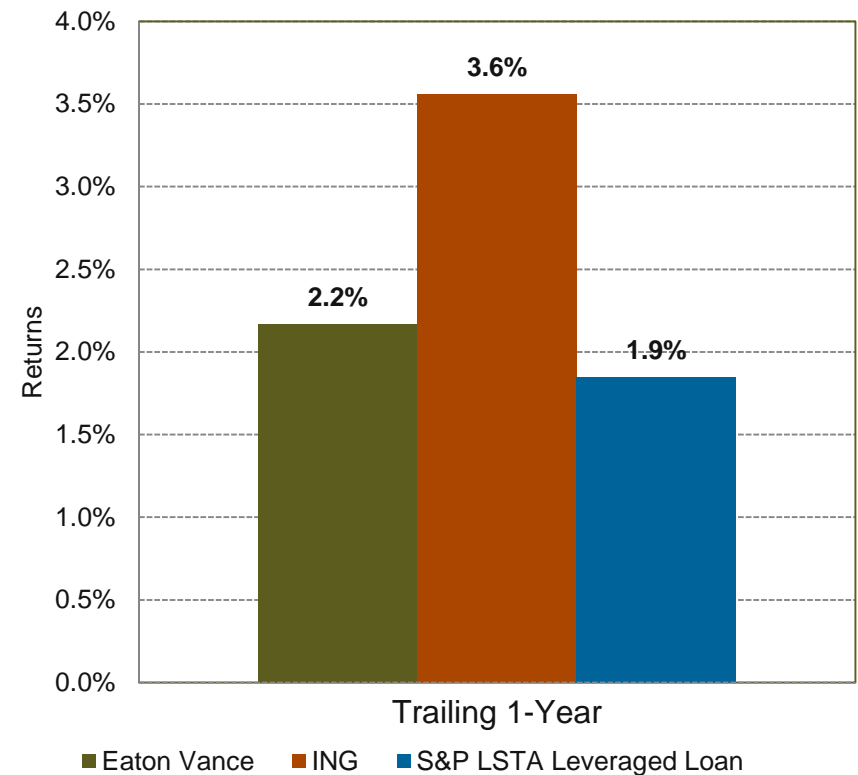
PRIT Value Added Fixed Income Managers

as of July 31, 2015

High Yield Managers vs. ML Master II High Yield



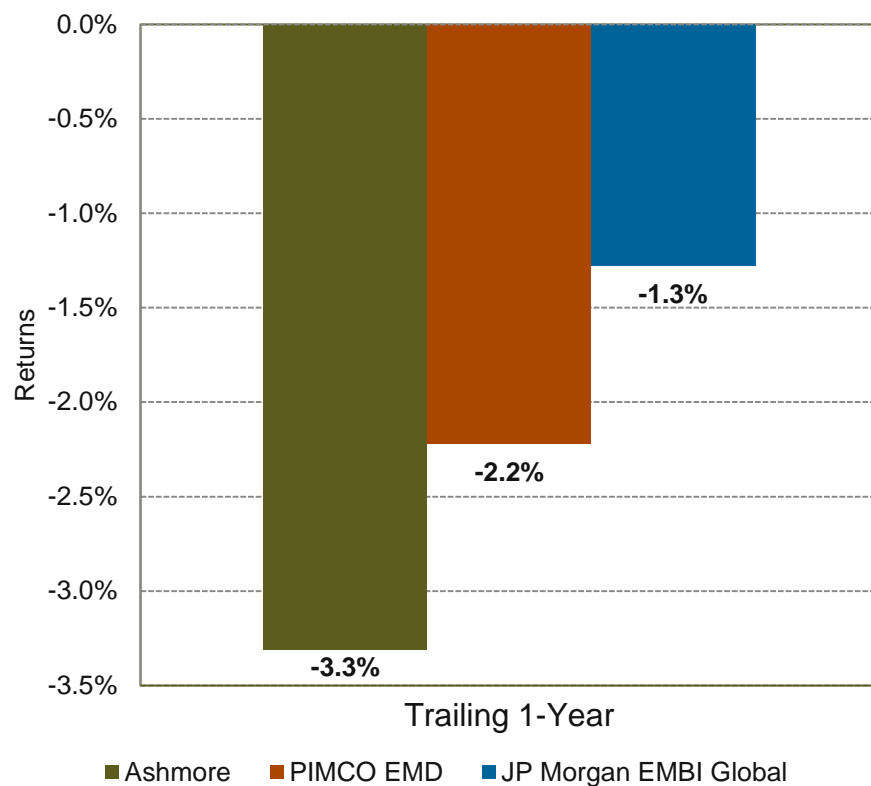
Bank Loan Managers vs. S&P LSTA Leveraged Loan



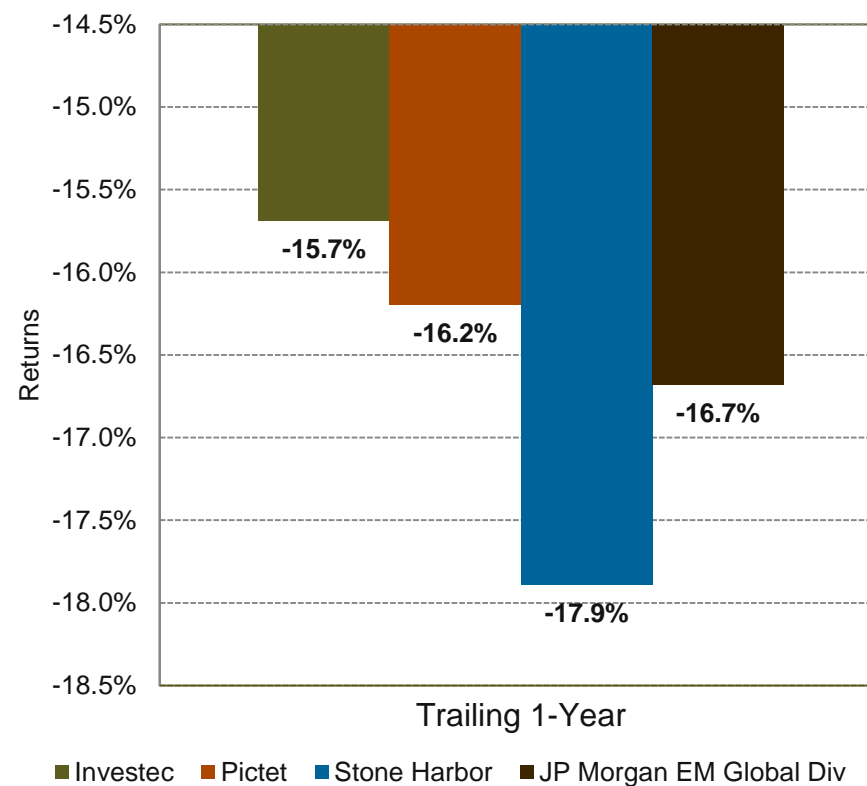
PRIT Value Added Fixed Income Managers

as of July 31, 2015

Emerging Debt Managers vs. JP Morgan EMBI Global



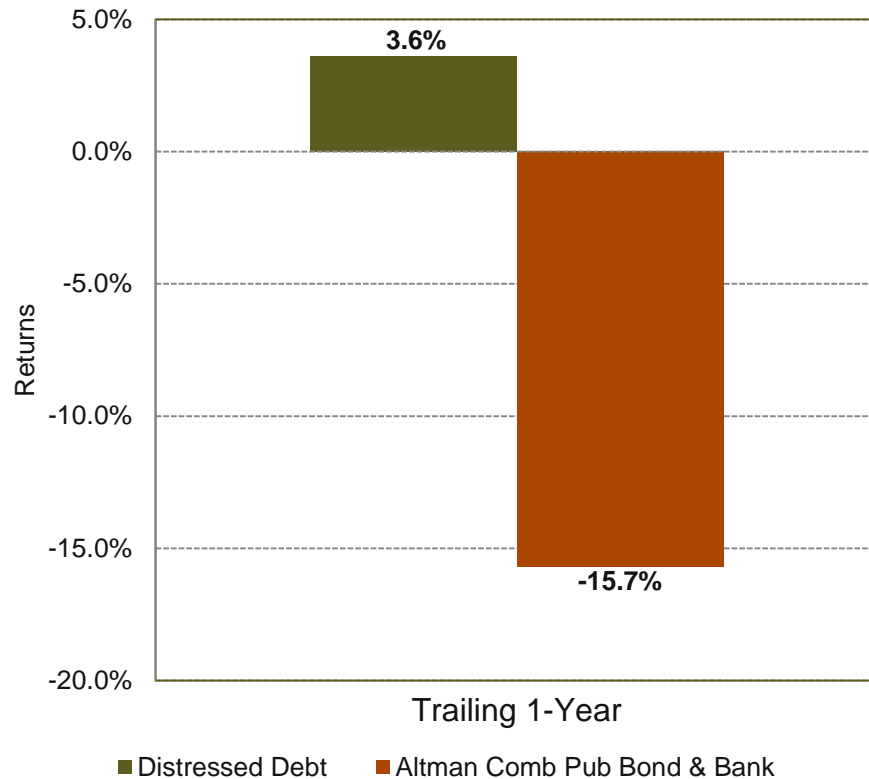
Emerging Markets Debt Local vs. JP Morgan EM Global Diversified



PRIT Value Added Fixed Income Managers

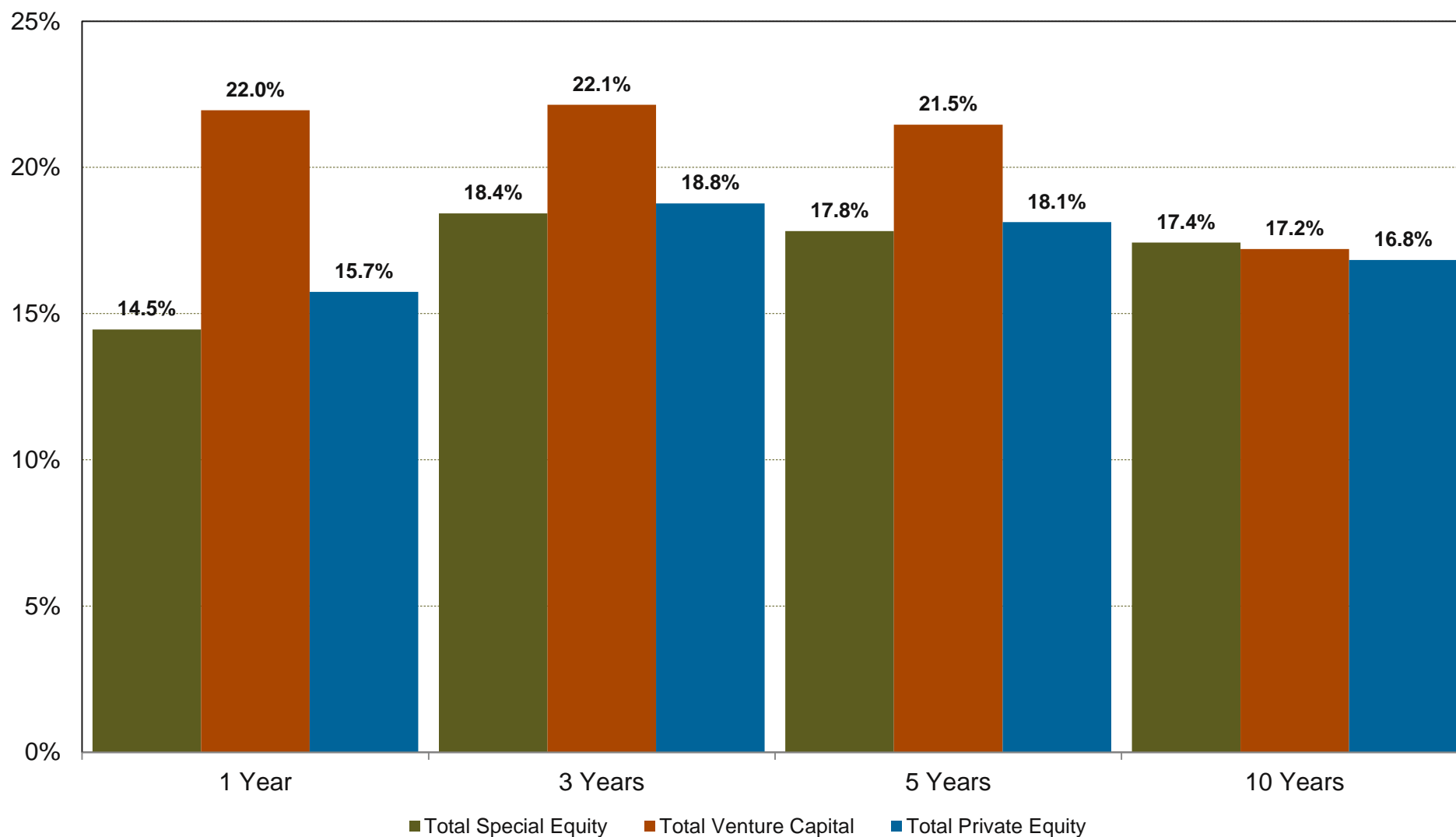
as of July 31, 2015

Distressed Debt vs. Altman Comb Pub Bond & Bank



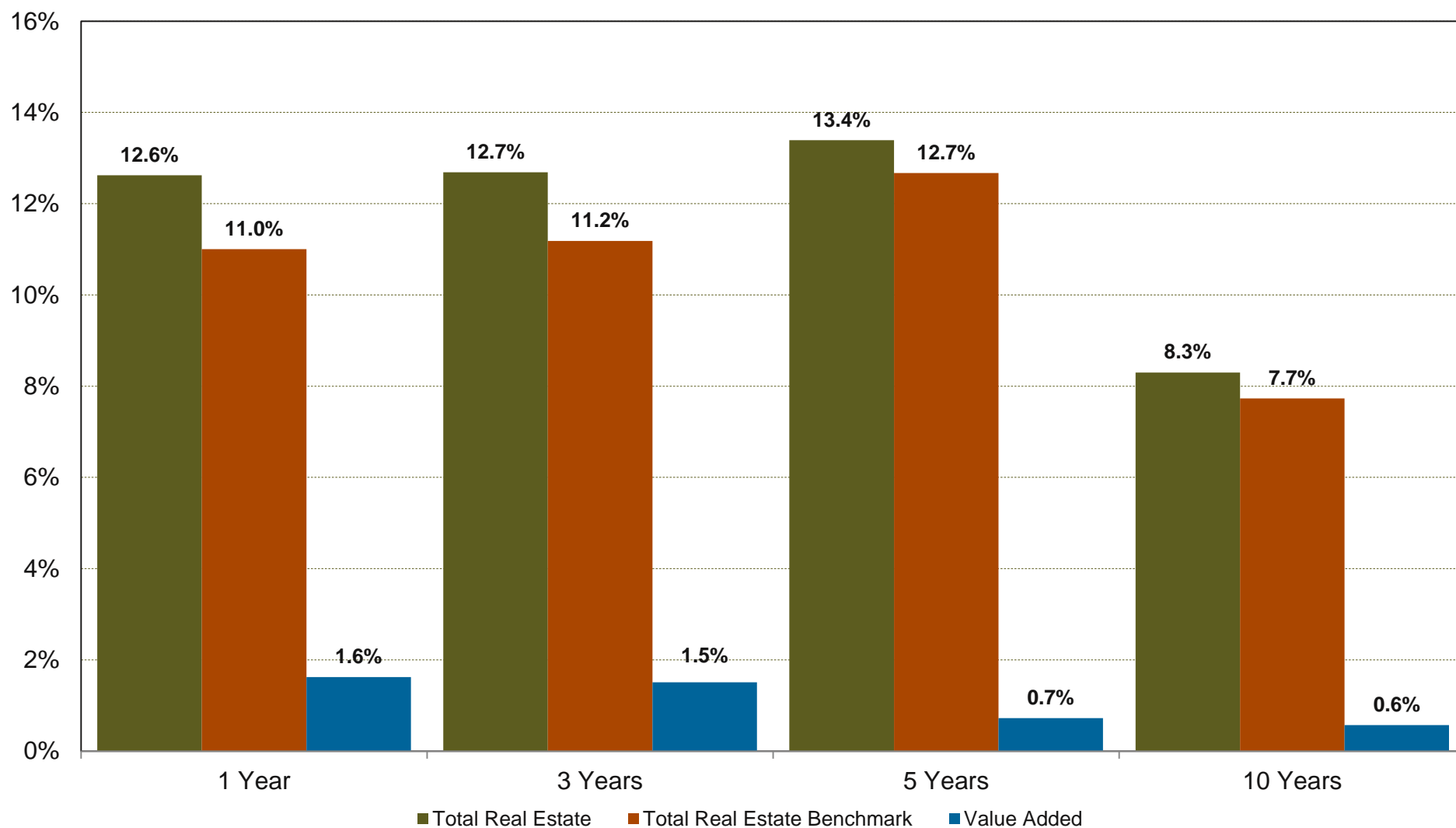
PRIT Private Equity (\$6.8 Billion)

Gross of Fees Performance as of July 31, 2015



PRIT Real Estate (\$6.2 Billion)

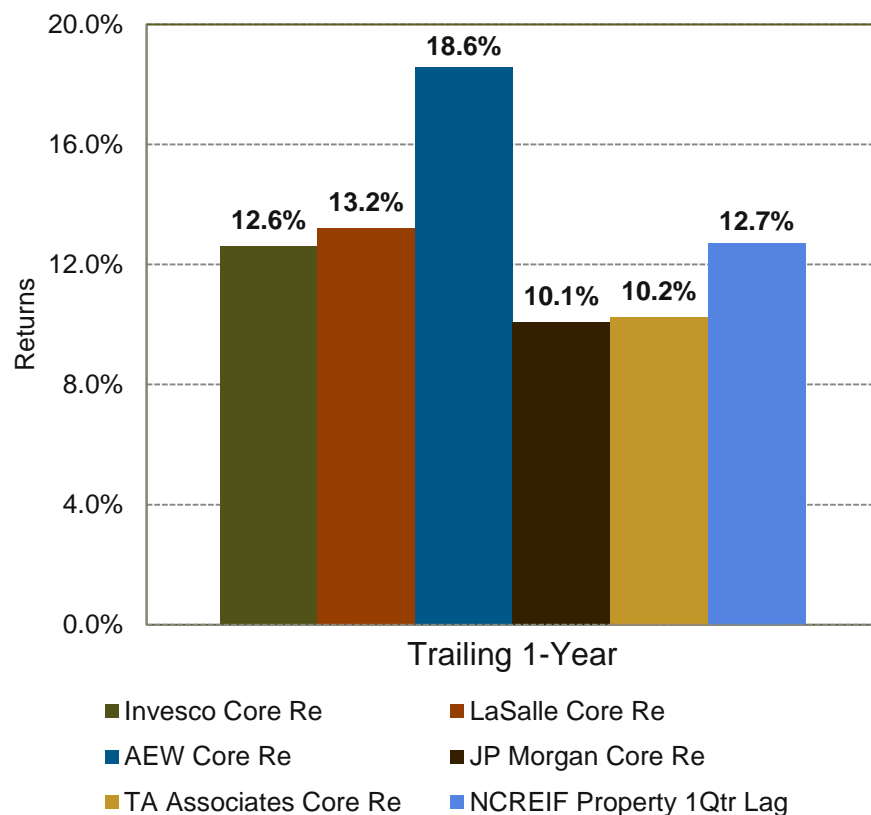
Gross of Fees Performance as of July 31, 2015



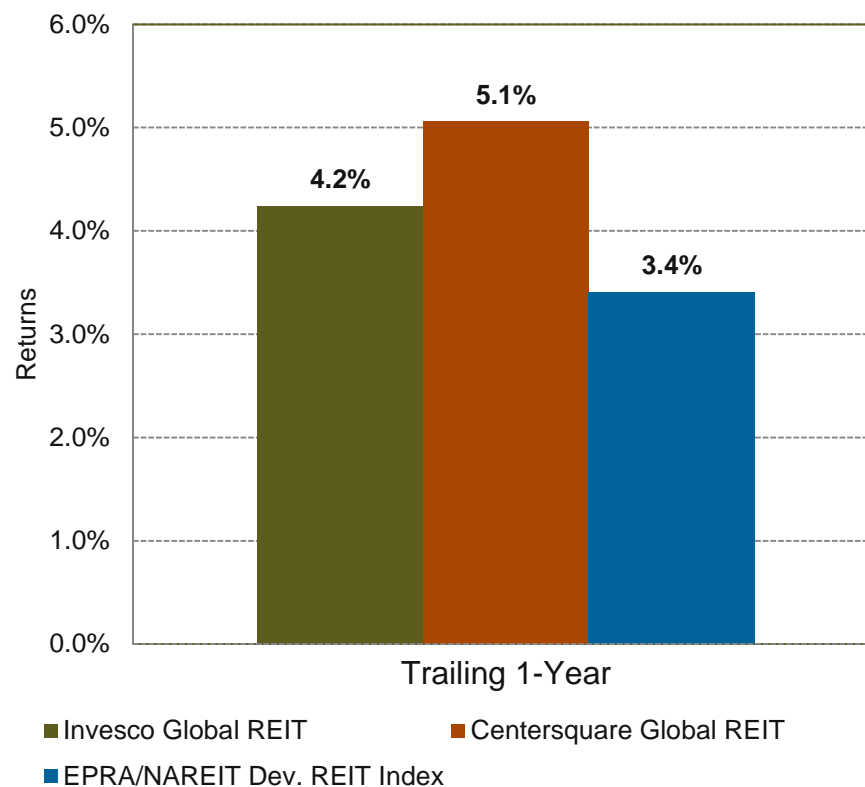
PRIT Real Estate Managers

as of July 31, 2015

Real Estate (SA) vs. NCREIF (One Quarter Lag)

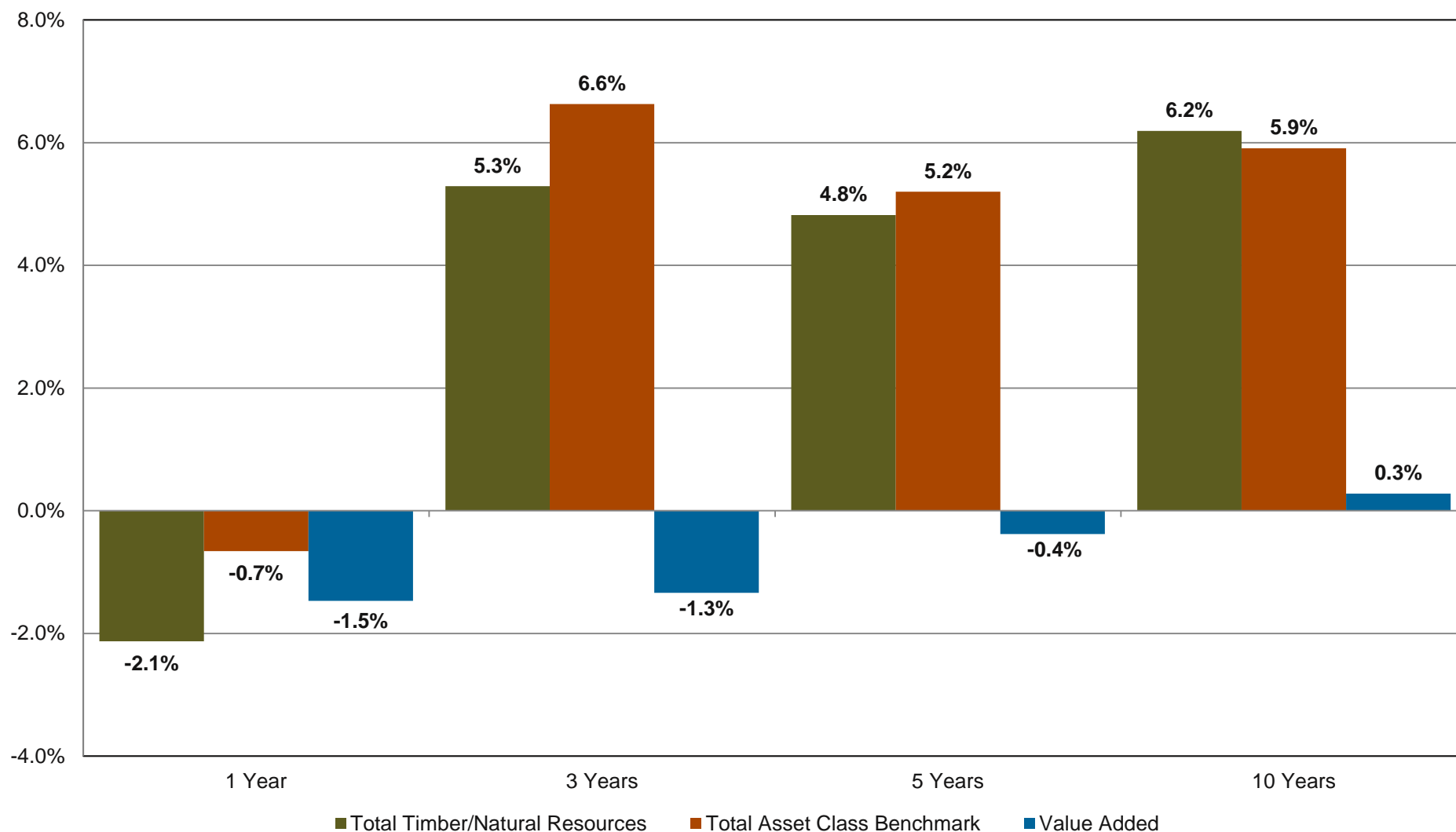


Global REIT Managers vs. EPRA/NAREIT Developed REIT Index



PRIT Timber/Natural Resources (\$2.3 Billion)

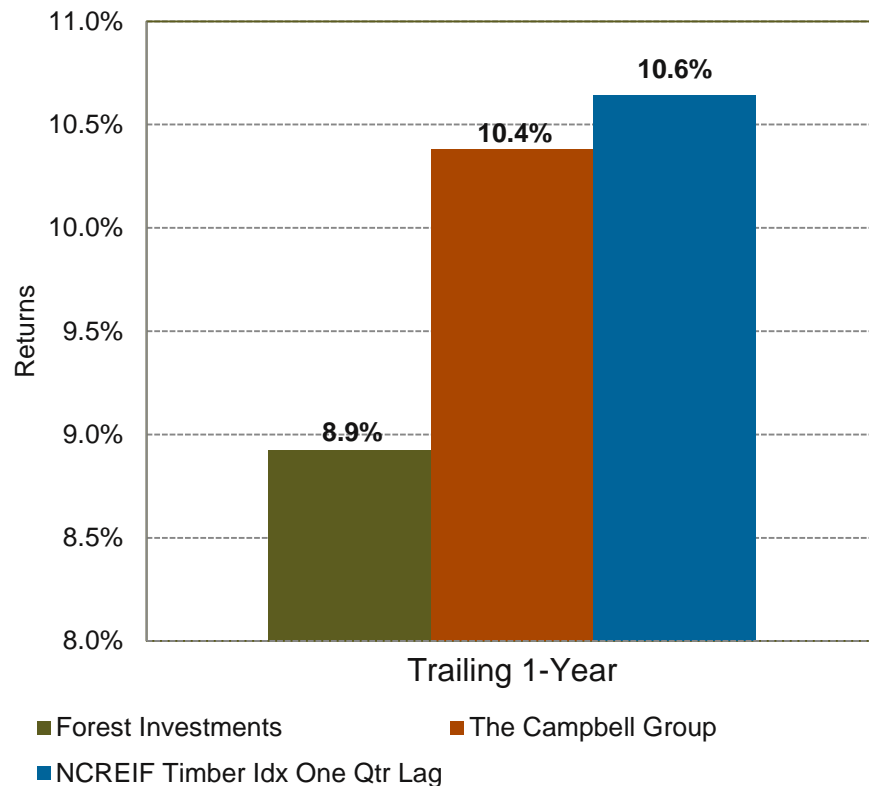
Gross of Fees Performance as of July 31, 2015



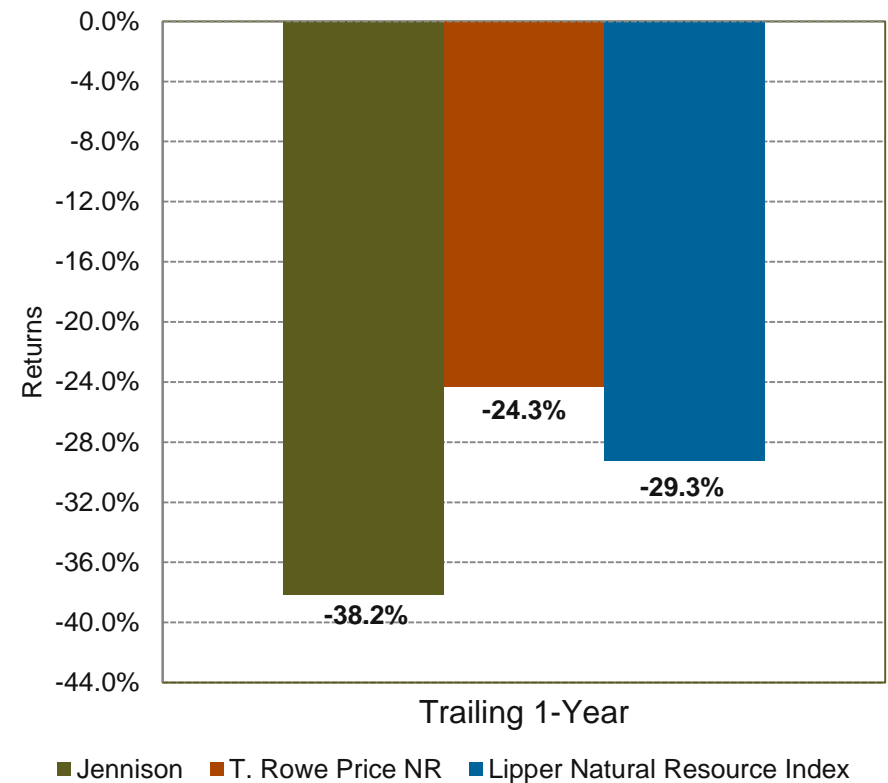
PRIT Timber/Natural Resource Managers

as of July 31, 2015

Timber Managers vs. NCREIF Timber (One Qtr Lag)



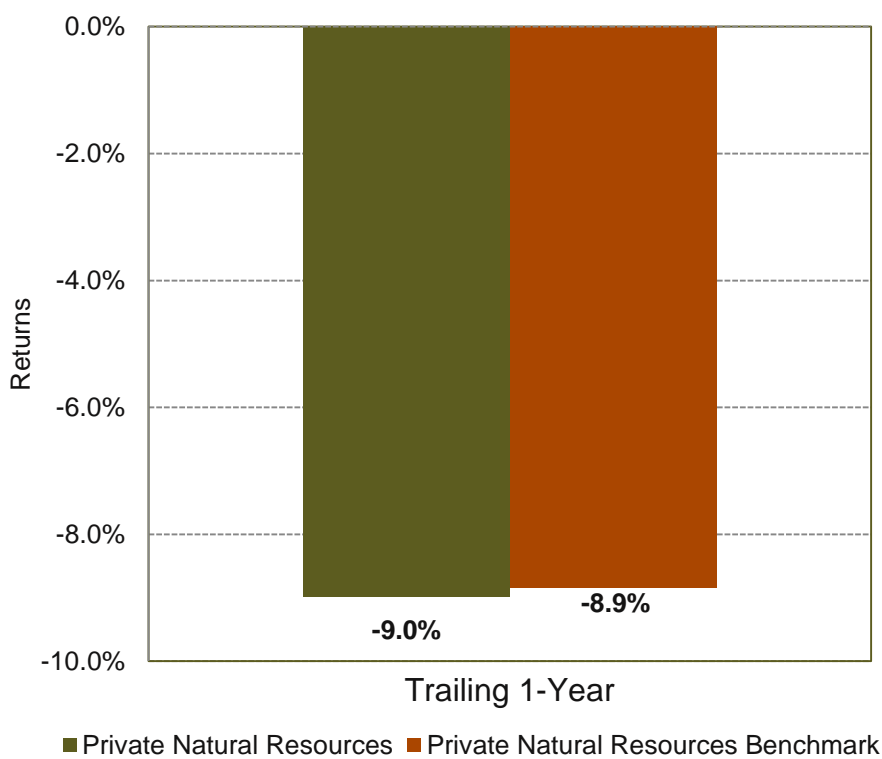
Natural Resources vs. Lipper Natural Resource Index



PRIT Private Natural Resource Managers

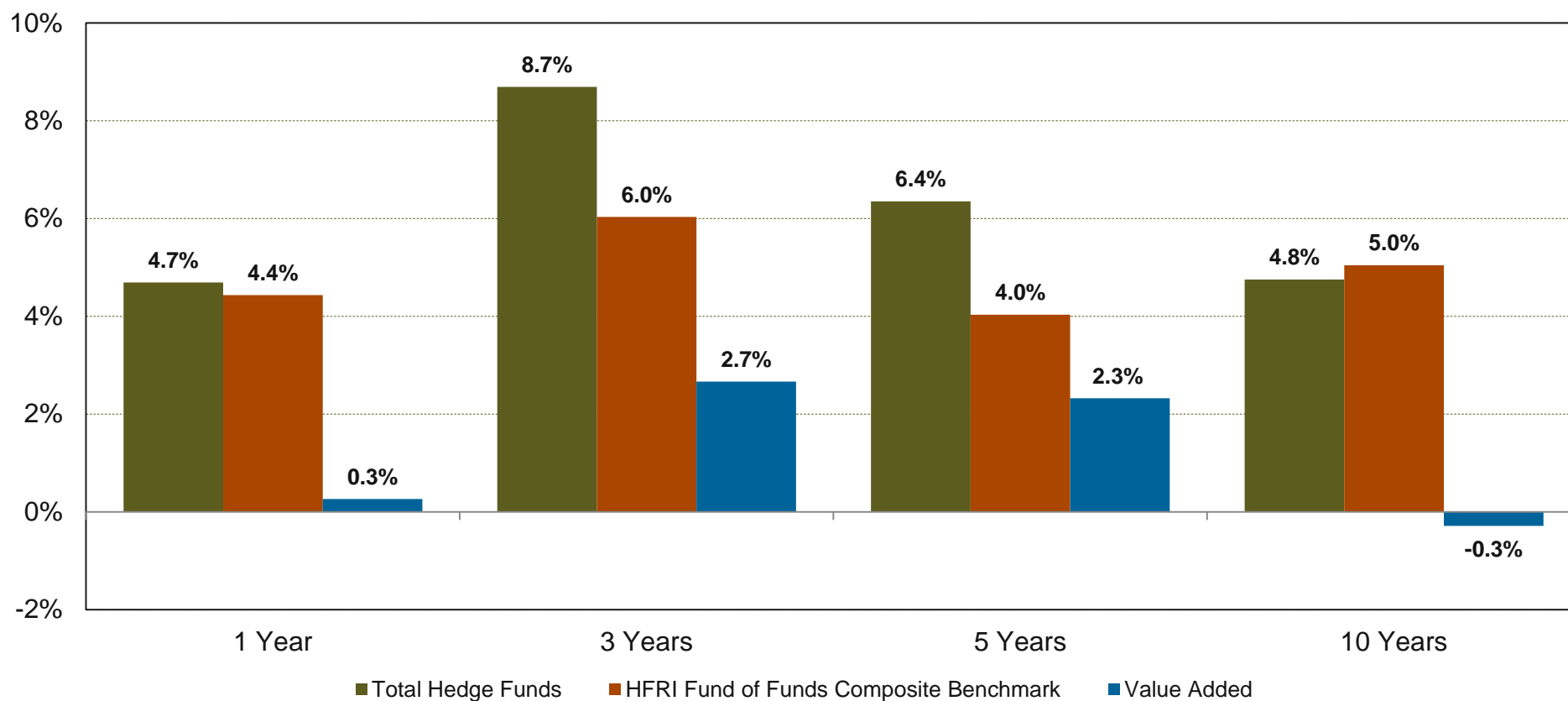
as of July 31, 2015

Private Natural Resources vs. Private Natural Resources Benchmark



PRIT Hedge Funds (\$5.2 Billion)

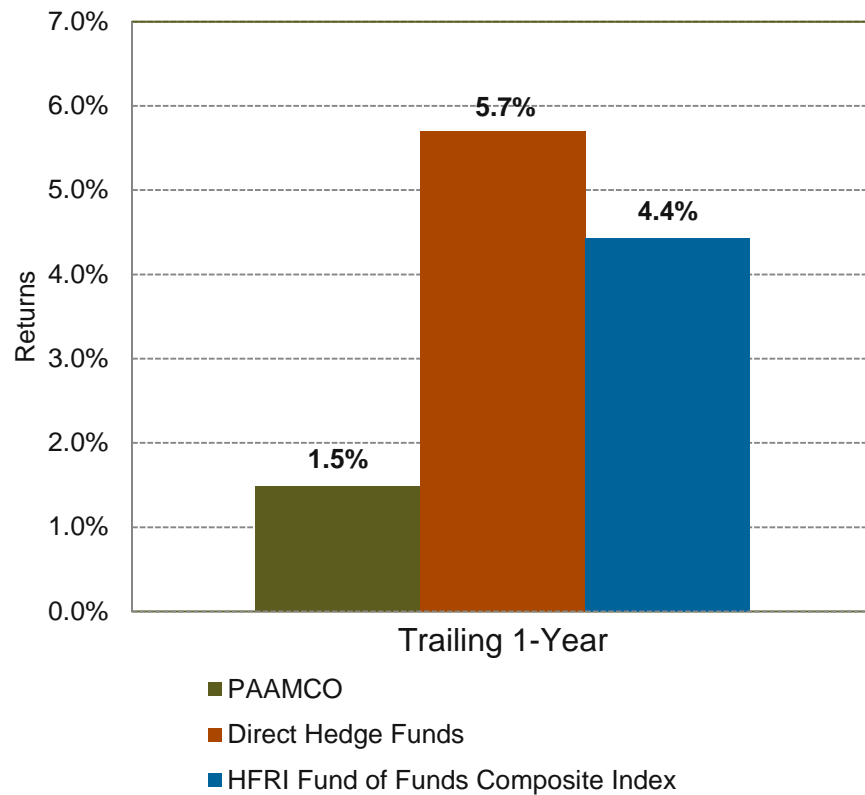
NET of Fees Performance as of July 31, 2015



PRIT Hedge Fund Managers

NET of Fees Performance as of July 31, 2015

Hedge Funds Versus HFRI Fund of Funds Composite Index



(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix C

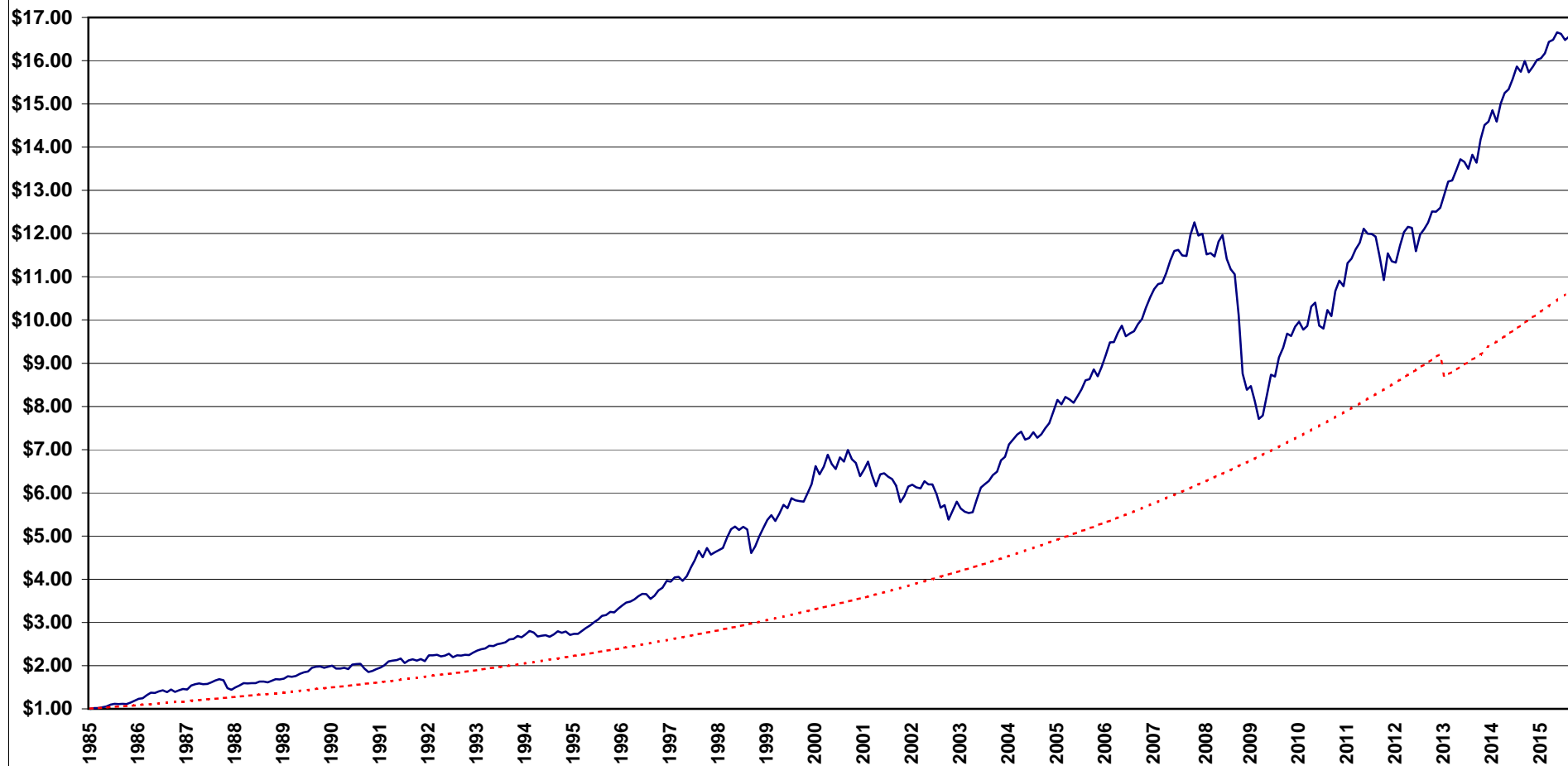
BNY Mellon Gross of Fees Performance Report

*PRIM Investment Committee Meeting
Monday, September 21, 2015*

(This page was intentionally left blank.)

Pension Reserves Investment Management Board
Performance Measurement
July 31, 2015

Growth of a Dollar invested in the PRIT Fund
Monthly, December 31, 1984 to July 31, 2015
\$1.00 invested in the PRIT Fund on January 1, 1985 would have grown to \$16.56 by July 31, 2015



PRIT --- 8.00% Current Actuarial Rate of Return

PENSION RESERVES INVESTMENT TRUST
SUMMARY OF PLAN PERFORMANCE
RATES OF RETURN (GROSS OF FEES)
Periods Ending July 31, 2015

	NAV \$ (M)	Target Allocation %	Actual Allocation %	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
GLOBAL EQUITY	26,292,481	42.8%	42.8%	0.28	0.28	3.90	2.67	13.34	11.03	6.31	5.66
CORE FIXED INCOME	8,486,603	13.0%	13.8%	2.83	2.83	-1.58	7.26	3.77	5.09	5.15	7.71
VALUE-ADDED FIXED INCOME	5,024,335	10.0%	8.2%	-0.56	-0.56	0.19	-2.58	4.17	6.42	7.52	8.72
PRIVATE EQUITY	6,783,889	10.0%	11.0%	-0.48	-0.48	8.76	15.74	18.77	18.13	16.83	14.52
REAL ESTATE	6,179,519	10.0%	10.1%	0.96	0.96	6.21	12.62	12.69	13.39	8.30	6.43
TIMBER/NATURAL RESOURCES	2,268,541	4.0%	3.7%	-1.85	-1.85	-2.92	-2.13	5.29	4.82	6.19	7.91
HEDGE FUNDS (NET OF FEES)	5,196,678	10.0%	8.5%	0.46	0.46	3.05	4.69	8.69	6.35	4.75	5.04
PORTFOLIO COMPLETION STRATEGIES	98,114	0.2%	0.2%	3.43	3.43	-1.84					-1.84
PORTABLE ALPHA WIND DOWN (NET OF FEES)	27,931	0.0%	0.0%	-0.98	-0.98	-6.30	-5.04	-2.84	-2.15		-5.70
OVERLAY	1,098,748	0.0%	1.8%	0.48	0.48	1.17	3.48				6.56
TOTAL CORE	61,456,840	100%	100%	0.49	0.49	3.12	5.19	11.07	10.15	6.78	9.56
<i>INTERIM BENCHMARK (target allocation without private equity benchmark) ¹</i>				0.28	0.28	3.23	4.31	10.08	9.38	6.67	10.08
<i>TOTAL CORE BENCHMARK (target allocation with private equity benchmark) ²</i>				0.43	0.43	3.02	3.84	9.14	8.43	6.34	9.97
PARTICIPANTS CASH	221,525			0.01	0.01	0.09	0.14	0.14	0.15	1.53	4.01
TEACHERS' AND EMPLOYEES' CASH	67,123			0.01	0.01	0.09	0.14	0.14	0.15	1.28	2.78
TOTAL FUND	61,745,487			0.49	0.49	3.11	5.18	11.03	10.11	6.76	9.61

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
DOMESTIC EQUITY												
INTECH	910,597	1.5%	2.75	2.75	4.78	14.47	18.79	17.14		8.38	7.85	1/31/2006
PIMCO DOMESTIC	945,715	1.5%	2.06	2.06	3.70	11.23	18.20	17.32		8.35	7.63	2/28/2006
SSGA S&P 500	7,383,168	12.0%	2.00	2.00	3.24	11.00	17.72			17.89	17.79	12/31/2011
CLOSED PORTFOLIOS	-	0.0%										
TOTAL LARGE CAP MANAGERS	9,239,479	15.0%	2.08	2.08	3.43	11.39	17.88	18.23	8.55	7.53	6.86	7/31/1997
<i>S&P 500</i>			<i>2.10</i>	<i>2.10</i>	<i>3.35</i>	<i>11.21</i>	<i>17.58</i>	<i>16.24</i>	<i>7.72</i>			
SUMMIT CREEK	216,222	0.4%	2.02	2.02	9.08	16.59				17.80	18.64	5/31/2013
<i>RUSSELL 2000 GROWTH</i>			<i>0.41</i>	<i>0.41</i>	<i>9.18</i>	<i>20.07</i>						
FRONTIER	178,542	0.3%	-2.29	-2.29	0.20	4.99				12.24	9.71	5/31/2013
HUBER	247,837	0.4%	-4.01	-4.01	-4.28	-10.41				1.96	9.71	5/31/2013
TOTAL SMALL CAP VALUE	426,379	0.7%	-3.30	-3.30	-2.46	-4.55				5.76	9.71	5/31/2013
<i>RUSSELL 2000 VALUE</i>			<i>-2.76</i>	<i>-2.76</i>	<i>-2.02</i>	<i>4.30</i>						
RIVERBRIDGE	170,370	0.3%	2.07	2.07	6.99	18.10				14.87	18.41	5/31/2013
<i>RUSSELL 2500 GROWTH</i>			<i>1.19</i>	<i>1.19</i>	<i>9.38</i>	<i>18.59</i>						
SOUTHERNSUN	149,975	0.2%	-3.19	-3.19	1.18	-3.26				13.09	14.40	5/31/2013
SSGA R2500	1,586,248	2.6%	-0.23	-0.23	4.45	11.02	18.59			17.38	17.57	12/31/2011
TOTAL SMID CAP CORE	1,736,223	2.8%	-0.50	-0.50	4.16	9.62	18.48			17.29	17.57	12/31/2011
<i>RUSSELL 2500</i>			<i>-0.19</i>	<i>-0.19</i>	<i>4.61</i>	<i>11.19</i>	<i>18.86</i>					
TOTAL SMALL/SMID CAP EQUITY	2,549,195	4.1%	-0.60	-0.60	3.56	8.00	17.54			16.53	17.40	12/31/2011
<i>70.5% RUSSELL 2500/5.5% RUSSELL 2500 GROWTH/6.5% RUSSELL 2000 GROWTH/17.5% RUSSELL 2000 VALUE³</i>				<i>-0.52</i>	<i>-0.52</i>	<i>3.98</i>	<i>10.93</i>	<i>18.65</i>				
CLOSED PORTFOLIOS	(0)	0.0%										
DOMESTIC EQUITY CASH	1,293	0.0%										
TOTAL DOMESTIC EQUITY	11,789,966	19.2%	1.51	1.51	3.49	10.71	17.85	16.19	6.57	10.45	10.70	2/28/1985
<i>ASSET CLASS BENCHMARK: 78.9% S&P 500/14.88% RUSSELL 2500/1.16% RUSSELL 2500 GROWTH/1.37% RUSSELL 2000 GROWTH/3.69% RUSSELL 2000 VALUE⁴</i>				<i>1.54</i>	<i>1.54</i>	<i>3.51</i>	<i>11.20</i>	<i>17.81</i>	<i>16.24</i>	<i>7.47</i>		

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
INTERNATIONAL EQUITY												
SSGA WORLD EX-US	5,221,281	8.5%	1.30	1.30	6.51	-1.44	12.22	8.13	5.57	6.33	5.85	3/31/1992
<i>CUSTOM MSCI WORLD EX-US IMI NET DIVS ⁵</i>			1.27	1.27	6.10	-2.12	11.55	7.54	4.93			
MARATHON ASSET MANAGEMENT	2,518,413	4.1%	2.06	2.06	11.65	4.21	15.36	11.06	8.65	9.05	4.92	10/31/1996
BAILLIE GIFFORD	1,819,656	3.0%	0.28	0.28	7.48	0.44	12.31	9.66	7.19	8.38	6.37	8/31/2004
MONDRIAN INVESTMENT	819,372	1.3%	3.14	3.14	8.80	1.94	14.09	9.27		1.81	0.95	6/30/2008
FIS	110,301	0.2%	2.04	2.04	8.89	2.65				5.90	4.35	10/31/2013
SSGA TRANSITION INTERNATIONAL EQUITY	-	0.0%										
CLOSED PORTFOLIOS	14	0.0%										
INTERNATIONAL EQUITY CASH	1,385	0.0%										
<i>CUSTOM MSCI EAFE STANDARD INDEX NET DIVS ⁶</i>			1.98	1.98	7.54	-0.42	12.39	7.93	5.00			
TOTAL INTERNATIONAL EQUITY	10,490,423	17.1%	1.45	1.45	8.12	0.55	13.14	9.25	6.07	8.21	6.68	7/31/1986
<i>ASSET CLASS BENCHMARK: 50% CUSTOM MSCI WORLD EX-US IMI NET DIVS, 50% CUSTOM MSCI EAFE STANDARD INDEX NET DIVS ⁷</i>												
			1.62	1.62	6.82	-1.14	11.92	7.75	5.04			
EMERGING MARKETS EQUITY												
SSGA EMERGING MKTS	992,389	1.6%	-7.16	-7.16	-3.61	-12.22	1.55	1.16		0.75	0.44	5/31/2010
<i>CUSTOM MSCI EM IMI NET DIVS ⁸</i>			-7.10	-7.10	-3.74	-12.35	1.42	0.87				
AQR EMERGING	512,358	0.8%	-7.50	-7.50						-9.01	-7.68	3/31/2015
BAILLIE GIFFORD EMM	560,627	0.9%	-7.48	-7.48						-9.85	-7.68	3/31/2015
DRIEHAUS CAPITAL	584,531	1.0%	-3.63	-3.63						-3.11	-7.68	3/31/2015
HARDING LOEVNER	405,969	0.7%	-4.19	-4.19						-5.11	-7.68	3/31/2015
PZENA INV	513,146	0.8%	-5.93	-5.93						-6.07	-7.68	3/31/2015
EMERGING MARKETS TRANSITION	52,478	0.1%										
TOTAL EMERGING MARKETS CORE	2,629,109	4.3%	-5.80	-5.80	-5.88	-14.14	0.48	0.05	5.41	9.24	5.15	2/28/1990
<i>CUSTOM MSCI EM STANDARD INDEX NET DIVS ⁹</i>			-7.00	-7.00	-4.31	-13.01	0.89	0.70	6.75			
CLOSED PORTFOLIOS	57	0.0%										
EMERGING MARKETS CASH	303	0.0%										
ACADIAN	136,739	0.2%	-6.20	-6.20	0.21	-5.30	16.19			13.24	2.72	5/31/2012
WASATCH	102,543	0.2%	-3.25	-3.25	0.96	-1.17	5.24			2.63	2.72	5/31/2012
TOTAL EMERGING MARKETS SMALL CAP	239,282	0.4%	-4.96	-4.96	0.53	-3.57	8.51			5.79	2.72	5/31/2012
<i>CUSTOM MSCI EM SMALL CAP NET DIVS ¹⁰</i>			-7.67	-7.67	0.11	-7.86	5.26					
ACADIAN FRONTIER	50,660	0.1%	1.46	1.46						5.72	-2.63	4/30/2015
CITY OF LONDON	100,291	0.2%	-1.24	-1.24						1.71	-0.78	2/28/2015
TOTAL FRONTIER	150,951	0.2%	-0.35	-0.35						2.56	-0.78	2/28/2015
<i>CUSTOM MSCI FRONTIER MKTS COUNTRY CAPPED INDEX NET DIVS</i>			-2.95	-2.95								
TOTAL EMERGING MARKETS	4,012,092	6.5%	-5.89	-5.89	-4.37	-12.58	1.49	1.12	5.85	9.42	5.18	2/28/1990
<i>ASSET CLASS BENCHMARK ¹¹</i>												
			-6.93	-6.93	-3.65	-12.27	1.45	0.89	6.84			
TOTAL GLOBAL EQUITY ¹²	26,292,481	42.8%	0.28	0.28	3.90	2.67	13.34	11.03	6.31	5.66	4.68	1/31/2001
<i>ASSET CLASS BENCHMARK: 44% DOMESTIC EQUITY BM/40% INTERNATIONAL EQUITY BM/16% EMERGING MARKETS BM ¹³</i>												
			0.22	0.22	3.75	2.34	12.84	10.37	6.09			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
DOMESTIC INVESTMENT GRADE FIXED INCOME												
BLACKROCK PASSIVE	889,417	1.4%	0.65	0.65	0.45	2.70	1.57	3.32	4.69	5.64	5.65	6/30/1995
PIMCO CORE	793,111	1.3%	0.62	0.62	0.98	3.35	2.33	3.69	5.44	7.35	6.42	9/30/1990
LOOMIS SAYLES CORE	1,127,496	1.8%	0.61	0.61	1.33	3.85	3.19	4.73	5.45	7.51	6.53	5/31/1990
COMMUNITY CAPITAL MANAGEMENT	27,765	0.0%	0.65	0.65	1.07	2.91	2.15	3.25		4.89	5.07	7/31/2006
AFL - CIO HOUSING INVESTMENT	125,290	0.2%	0.67	0.67	1.15	3.48	1.89	3.49		5.11	4.88	8/31/2007
ACCESS CAPITAL - ETI	103,063	0.2%	0.44	0.44	1.38	4.00	2.44	3.21	4.59	4.38	4.35	4/30/2004
TOTAL AGGREGATE ¹⁴	3,066,142	5.0%	0.62	0.62	1.07	3.50	2.25	3.77	4.95	5.76	5.38	7/31/1999
BARCLAYS CAPITAL AGGREGATE			0.70	0.70	0.59	2.82	1.60	3.27	4.61			
BLACKROCK - STRIPS	3,557,925	5.8%	5.86	5.86	-4.22	13.68				17.83	17.75	4/30/2014
BC US TREASURY STRIPS 20+ YR INDEX			5.85	5.85	-4.28	13.72						
CLOSED PORTFOLIOS	1	0.0%										
FIXED INCOME CASH	493	0.0%										
TOTAL DOMESTIC INVESTMENT GRADE FIXED INCOME	6,624,561	10.8%	3.37	3.37	-2.28	8.59	4.51	5.24	5.72	6.28	5.83	7/31/1999
DOMESTIC INVESTMENT GRADE FIXED INCOME BM ¹⁵			3.40	3.40	-2.50	8.11	3.94	4.69	5.32			
INFLATION-LINKED FIXED INCOME												
BLACKROCK - TIPS	595,519	1.0%	0.13	0.13	0.54	-1.65	-1.32	3.32	4.33	5.52	5.59	4/30/2001
BARCLAYS CAPITAL US TIPS			0.21	0.21	0.55	-1.56	-1.31	3.30	4.38			
BLACKROCK ILBs	1,266,523	2.1%	1.32	1.32	1.40	4.04	2.28	4.90		1.13	0.62	10/31/2005
CLOSED PORTFOLIOS	-	0.0%										
TOTAL ILBs	1,266,523	2.1%	1.32	1.32	1.40	4.04	2.28	4.90		0.97	0.62	10/31/2005
BC LB US\$ HEDGED ¹⁶			1.36	1.36	1.20	4.22	1.77	4.53				
TOTAL INFLATION-LINKED FIXED INCOME	1,862,042	3.0%	0.94	0.94	1.12	2.15	1.08	4.44	1.81	3.72	1.39	4/30/2001
33% BC US TIPS/67% BC ILB US\$ HEDGED ¹⁷			0.98	0.98	0.99	2.29	0.75	4.13	1.58			
TOTAL CORE FIXED INCOME	8,486,603	13.8%	2.83	2.83	-1.58	7.26	3.77	5.09	5.15	7.71	7.15	9/30/1985
ASSET CLASS BENCHMARK ¹⁸			2.86	2.86	-1.78	6.91	3.25	4.60	4.73			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PRIVATE EQUITY												
SPECIAL EQUITY	19,142	0.0%	-0.03	-0.03	8.39	26.69	18.51	18.47	14.92	14.93		9/30/1986
SPECIAL EQUITY - 2000	26,278	0.0%	0.00	0.00	13.45	39.92	26.32	19.05	18.98	16.31		2/29/2000
SPECIAL EQUITY - 2001	58,674	0.1%	-0.15	-0.15	11.55	9.20	20.35	15.76	20.99	20.45		4/30/2001
SPECIAL EQUITY - 2002	5,405	0.0%	-0.55	-0.55	4.68	2.52	11.43	23.89	24.16	17.90		7/31/2002
SPECIAL EQUITY - 2003	93,465	0.2%	-0.12	-0.12	1.80	11.60	10.85	11.56	17.33	15.98		7/31/2003
SPECIAL EQUITY - 2004	77,777	0.1%	-0.23	-0.23	14.41	15.82	21.10	21.48	14.55	12.73		7/31/2004
SPECIAL EQUITY - 2005	392,259	0.6%	-0.27	-0.27	6.39	13.24	16.86	17.46	11.89	11.68		6/30/2005
SPECIAL EQUITY - 2006	632,790	1.0%	-0.25	-0.25	5.61	12.17	17.50	18.24		5.66		4/30/2006
SPECIAL EQUITY - 2007	905,946	1.5%	-0.46	-0.46	5.19	8.38	16.38	15.73		7.43		7/31/2007
SPECIAL EQUITY - 2008	907,351	1.5%	-0.26	-0.26	9.33	18.37	24.02	21.47		9.37		4/30/2008
SPECIAL EQUITY - 2009	232,032	0.4%	-0.15	-0.15	12.51	28.22	25.82	20.00		10.44		8/31/2009
SPECIAL EQUITY - 2010	499,893	0.8%	-0.43	-0.43	5.60	13.85	16.94			4.56		1/31/2011
SPECIAL EQUITY - 2011	560,047	0.9%	-0.74	-0.74	18.16	27.77	17.58			-27.31		7/31/2011
SPECIAL EQUITY - 2012	242,097	0.4%	-0.71	-0.71	5.29	6.86	-14.09			-14.09		8/31/2012
SPECIAL EQUITY - 2013	168,112	0.3%	-1.72	-1.72	1.59	1.95				2.85		6/30/2013
SPECIAL EQUITY - 2014	175,323	0.3%	-1.66	-1.66	-2.02	3.01				-13.84		5/31/2014
SPECIAL EQUITY - 2015	66,105	0.1%	-2.57	-2.57						-5.93		3/31/2015
TOTAL SPECIAL EQUITY	5,062,695	8.2%	-0.49	-0.49	7.61	14.46	18.43	17.82	17.43	16.12		9/30/1986
VENTURE CAPITAL	12,953	0.0%	0.00	0.00	6.54	12.51	11.65	9.75	16.24	11.47		4/30/1986
VENTURE CAPITAL - 2000	67,359	0.1%	-0.09	-0.09	2.59	-4.63	8.67	10.78	10.60	6.23		2/29/2000
VENTURE CAPITAL - 2001	39,180	0.1%	-0.04	-0.04	5.86	6.91	9.89	10.54	13.42	12.27		2/28/2001
VENTURE CAPITAL - 2002	14,160	0.0%	0.00	0.00	0.66	6.09	5.57	3.16	0.20	0.01		4/30/2003
VENTURE CAPITAL - 2003	30,763	0.1%	0.44	0.44	23.11	24.17	34.09	23.11	14.24	13.55		2/29/2004
VENTURE CAPITAL - 2004	36,050	0.1%	0.00	0.00	30.03	-12.10	21.30	42.02	27.85	25.91		2/28/2005
VENTURE CAPITAL - 2005	118,650	0.2%	-0.08	-0.08	17.60	32.70	21.54	19.51	11.95	11.07		3/31/2005
VENTURE CAPITAL - 2006	135,519	0.2%	0.00	0.00	7.35	17.23	16.61	17.97		11.11		4/30/2006
VENTURE CAPITAL - 2007	191,584	0.3%	-0.11	-0.11	7.86	24.99	22.43	26.76		16.47		4/30/2007
VENTURE CAPITAL - 2008	31,510	0.1%	0.00	0.00	6.25	27.95	29.36	39.69		24.69		7/31/2008
VENTURE CAPITAL - 2009	230,767	0.4%	-2.07	-2.07	10.98	22.17	23.74	19.20		11.98		8/31/2009
VENTURE CAPITAL - 2010	256,800	0.4%	-0.19	-0.19	29.53	38.10	36.65	20.20		17.08		4/30/2010
VENTURE CAPITAL - 2011	89,801	0.1%	-0.17	-0.17	17.59	28.23	23.65			12.67		2/28/2011
VENTURE CAPITAL - 2012	213,485	0.3%	-0.68	-0.68	15.68	28.55	23.20			10.76		5/31/2012
VENTURE CAPITAL - 2013	43,071	0.1%	0.00	0.00	8.36	8.83				3.42		6/30/2013
VENTURE CAPITAL - 2014	46,818	0.1%	-0.82	-0.82	2.19	-1.85				-3.83		6/30/2014
VENTURE CAPITAL - 2015	3,497	0.0%	0.00	0.00						-9.01		3/31/2015
TOTAL VENTURE CAPITAL	1,561,967	2.5%	-0.49	-0.49	13.99	21.95	22.14	21.46	17.21	12.98		4/30/1986
PRIVATE EQUITY CASH	159,227	0.3%										
TOTAL PRIVATE EQUITY	6,783,889	11.0%	-0.48	-0.48	8.76	15.74	18.77	18.13	16.83	14.52	17.04	4/30/1986
ASSET CLASS BENCHMARK ²⁴			-0.48	-0.48	8.76	15.74	18.77	18.13	16.83			
7 YEAR ANNUALIZED RETURN PE ²⁵			0.92	0.92	6.20	10.94	12.49	14.44		14.82	7.69	7/31/2007
7 YEAR ANNUALIZED RUSSELL 3000 +3% ²⁶			1.03	1.03	6.90	11.20	9.49	8.63				

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PRIVATE REAL ESTATE												
CORE												
INVESCO CORE	1,116,785	1.8%	0.40	0.40	3.12	12.60	13.20	14.60	8.92	9.89	9.68	5/31/1995
LASALLE	1,480,811	2.4%	0.22	0.22	7.06	13.19	13.42	14.80	9.10	10.46	9.62	1/31/1995
AEW	993,978	1.6%	0.31	0.31	8.53	18.57	14.40			14.45	12.25	1/31/2011
JP MORGAN	755,125	1.2%	0.50	0.50	5.90	10.06	9.02	12.90	6.13	10.46	9.02	9/30/2000
TA ASSOCIATES	1,155,908	1.9%	0.39	0.39	6.92	10.23	10.32	11.58	7.91	8.87	9.02	9/30/2000
CLOSED PORTFOLIOS	-	0.0%										
TOTAL CORE ACCOUNTS	5,502,607	9.0%	0.35	0.35	6.32	12.82	12.02	13.30	8.39	9.94	9.66	12/31/1994
PORTFOLIO DEBT												
CLOSED PORTFOLIOS	(1,002,038)	-1.6%										
	-	0.0%										
TOTAL SEPARATE ACCOUNTS - LEVERAGED	4,500,569	7.3%	0.36	0.36	7.22	15.16				14.91	11.68	2/28/2013
NON-CORE												
NON-CORE	419,788	0.7%	0.22	0.22	6.54	14.34	15.43			11.66	11.20	1/31/2012
NON-CORE (ETI EXCLUDED)	419,788	0.7%	0.22	0.22	6.54	14.34	15.43			11.66	11.20	1/31/2012
ETI (PARTNERSHIPS)												
CANYON JOHNSON II	5,519	0.0%	0.00	0.00	1.09	5.06	-2.45	-2.50	-4.75	-4.63	8.54	5/31/2005
INTERCONT IV	1,036	0.0%	0.00	0.00	22.15	51.21	19.37	14.72	-1.36	-1.35	8.32	7/31/2005
NEW BOSTON URBAN I	7,450	0.0%	0.00	0.00	-2.33	0.12	3.63	4.38		-4.45	6.95	12/31/2006
TOTAL ETI ACCOUNTS	14,005	0.0%	0.00	0.00	0.14	6.57	2.24	2.09	-4.85	-4.73	8.54	5/31/2005
TOTAL NON-CORE	433,793	0.7%	0.21	0.21	6.30	14.05	11.98	7.14	-2.52	-2.46	8.54	5/31/2005
TOTAL PRIVATE REAL ESTATE²⁷	4,934,361	8.0%	0.35	0.35	7.14	15.13	13.97	14.41	9.30	10.96	9.62	11/30/1994
<i>NCREIF PROPERTY ONE QTR LAG</i>												
			0.00	0.00	6.72	12.72	11.47	12.75	8.39			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PUBLIC REAL ESTATE (REITS)												
INVESCO GLOBAL REIT	273,751	0.4%	3.71	3.71	0.98	4.24	10.00			10.31	9.67	5/31/2012
CENTERSQUARE GLOBAL REIT	780,094	1.3%	3.56	3.56	1.45	5.06	9.81			10.24	9.67	5/31/2012
INVESCO TRANSITION	149,615	0.2%	3.70	3.70	0.89	2.90				2.90	3.41	8/31/2014
TOTAL GLOBAL REITS	1,203,461	2.0%	3.61	3.61	1.23	4.24	9.34			9.69	9.67	5/31/2012
FTSE EPRA NAREIT DEVELOPED NET TOTAL RETURN			3.46	3.46	0.49	3.41	9.32					
CLOSED PORTFOLIOS												
REIT CASH	26											
	47	0.0%										
TOTAL REITS	1,203,534	2.0%	3.62	3.62	1.26	4.27	9.35	11.10	4.94	9.80	8.35	6/30/1998
100% FTSE EPRA NAREIT DEVELOPED NET TOTAL RETURN ²⁸			3.46	3.46	0.49	3.41	9.32	11.19	4.59			
REAL ESTATE LEVERAGE CASH												
CORE REAL ESTATE CASH	(11)	0.0%										
REAL ESTATE TRANSITION	41,634	0.1%										
	0	0.0%										
TOTAL CORE ACCOUNT	6,179,519	10.1%	0.96	0.96	6.21	12.62	12.69	13.39	8.30	10.67	9.83	12/31/1994
TOTAL REAL ESTATE	6,179,519	10.1%	0.96	0.96	6.21	12.62	12.69	13.39	8.30	6.43	7.94	1/31/1986
ASSET CLASS BENCHMARK: 80% NCREIF PROPERTY ONE QTR LAG/20% FTSE EPRA NAREIT DEVELOPED NET TOTAL RETURN ²⁹			0.69	0.69	5.54	11.00	11.18	12.67	7.73			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
TIMBER												
FOREST INVESTMENTS	1,109,273	1.8%	0.00	0.00	1.45	8.92	9.38	6.46	7.38	7.62	7.38	1/31/2002
THE CAMPBELL GROUP	543,000	0.9%	-1.39	-1.39	1.93	10.38	8.68			6.96	7.92	11/30/2011
TIMBER CASH	5	0.0%										
TOTAL TIMBER	1,652,279	2.7%	-0.46	-0.46	1.61	9.37	9.25	6.42	8.66	9.75	7.38	1/31/2002
<i>NCREIF TIMBER INDEX ONE QTR LAG ³⁰</i>			<i>0.00</i>	<i>0.00</i>	<i>7.88</i>	<i>10.64</i>	<i>9.80</i>	<i>6.20</i>	<i>8.60</i>			
NATURAL RESOURCES - PUBLIC												
JENNISON	166,914	0.3%	-11.39	-11.39	-14.26	-38.18	-6.04	-3.44		-6.76	-8.27	7/31/2008
T. ROWE PRICE NR	179,688	0.3%	-6.98	-6.98	-10.01	-24.33	1.39	2.21		-4.86	-8.27	7/31/2008
PUBLIC NATURAL RESOURCES CASH	3	0.0%										
TOTAL NATURAL RESOURCES PUBLIC	346,605	0.6%	-9.16	-9.16	-12.11	-31.70	-2.48	-0.62		-5.75	-8.27	7/31/2008
<i>LIPPER NATURAL RESOURCES GLOBAL FUND INDEX</i>			<i>-8.67</i>	<i>-8.67</i>	<i>-10.71</i>	<i>-29.27</i>	<i>-2.74</i>	<i>-1.69</i>				
NATURAL RESOURCES- PRIVATE												
NATURAL RESOURCES- PRIVATE	268,917	0.4%	-0.04	-0.04	-14.62	-8.98	-4.22	4.81		1.52	1.07	8/31/2008
PRIVATE NATURAL RESOURCES CASH	740	0.0%										
TOTAL NATURAL RESOURCES PRIVATE	269,657	0.4%	-0.04	-0.04	-14.55	-8.85	-4.10	4.95		1.07	1.07	8/31/2008
<i>BENCHMARK - NAT. RES. PRIVATE ³¹</i>			<i>-0.04</i>	<i>-0.04</i>	<i>-14.55</i>	<i>-8.85</i>	<i>-4.10</i>	<i>4.95</i>				
TOTAL TIMBER/NATURAL RESOURCES	2,268,541	3.7%	-1.85	-1.85	-2.92	-2.13	5.29	4.82	6.19	7.91	5.41	1/31/2002
<i>ASSET CLASS BENCHMARK ³²</i>			<i>-1.42</i>	<i>-1.42</i>	<i>1.74</i>	<i>-0.66</i>	<i>6.63</i>	<i>5.20</i>	<i>5.91</i>			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
HEDGE FUNDS (NET OF FEES)												
ARDEN HFOF LIQUIDATION	47,906	0.1%	-1.19	-1.19	1.24	0.54				6.51		10/31/2012
IVY LIQUIDATION	4,685	0.0%	-0.16	-0.16	2.75	11.61	7.76	2.99		2.85		3/31/2009
PAAMCO	997,221	1.6%	-0.92	-0.92	2.32	1.49	9.05	6.17	5.35	5.26	5.15	8/31/2004
100% HFRI FUND OF FUNDS COMPOSITE INDEX ³³			0.11	0.11	2.80	4.43	6.03	4.03	5.04			
DIRECT HEDGE FUNDS	4,112,852	6.7%	0.83	0.83	3.16	5.70	8.70			7.52	5.00	11/30/2011
HFRI FUND OF FUNDS COMPOSITE INDEX ³⁴			0.11	0.11	2.80	4.43	6.03					
HEDGE FUND CASH	34,014	0.1%										
TOTAL HEDGE FUNDS (NET OF FEES)	5,196,678	8.5%	0.46	0.46	3.05	4.69	8.69	6.35	4.75	5.04	5.15	7/31/2004
ASSET CLASS BENCHMARK:												
HFRI FUND OF FUNDS COMPOSITE INDEX ³⁵			0.11	0.11	2.80	4.43	6.03	4.03	5.04			
PORTFOLIO COMPLETION STRATEGIES	98,114	0.2%	3.43	3.43	-1.84					-1.84	1.84	1/31/2015
PORTFOLIO COMPLETION STRATEGIES COMPOSITE INDEX ³⁶			0.26	0.26	1.84							

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PORTABLE ALPHA WIND DOWN (NET OF FEES)												
AUSTIN CAPITAL	1,576	0.0%	0.15	0.15	0.59	2.72	-12.02	-10.99		-9.71	-0.53	9/30/2008
CRESTLINE	11,144	0.0%	-0.70	-0.70	-10.23	-6.99	-2.93	-0.41		0.64	-0.04	9/30/2006
STRATEGIC	15,186	0.0%	-1.29	-1.29	-3.71	-4.73	-0.44	-1.89		-0.78	-0.33	10/31/2006
TOTAL FUND OF FUNDS (NET OF FEES)	27,907	0.0%	-0.98	-0.98	-6.37	-5.15	-2.87	-2.09		-0.67	-0.04	9/30/2006
CLOSED PORTFOLIOS	-	0.0%										
PORTABLE ALPHA CASH	25	0.0%										
TOTAL PORTABLE ALPHA WIND DOWN (NET OF FEES)	27,931	0.0%	-0.98	-0.98	-6.30	-5.04	-2.84	-2.15		-5.70	-0.04	9/30/2006
ASSET CLASS BENCHMARK: HFRI FUND OF FUNDS COMPOSITE INDEX ³⁷												
			0.11	0.11	2.80	4.43	6.03	4.03				
OVERLAY												
CLIFTON	178,599	0.3%	0.87	0.87	1.73	3.87				8.15	8.15	10/31/2013
OVERLAY CASH	920,148	1.5%										
TOTAL OVERLAY	1,098,748	1.8%	0.48	0.48	1.17	3.48				6.56	6.56	10/31/2013
ASSET CLASS BENCHMARK ³⁸												
			0.48	0.48	1.17	3.48						

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending July 31, 2015												
	NAV \$ (M)	%	Month	FY '16	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
TOTAL CORE	61,456,840	99.5%	0.49	0.49	3.12	5.19	11.07	10.15	6.78	9.56		2/28/1985
CASH FUND												
PARTICIPANTS' CASH (NET OF FEES)	221,525	0.4%	0.01	0.01	0.09	0.14	0.14	0.15	1.53	4.01	3.84	7/31/1985
MERRILL LYNCH 90 DAY T BILL			0.00	0.00	0.00	0.01	0.06	0.08	1.39			
MASS STATE TEACHERS CASH (NET OF FEES)	31,399	0.1%	0.01	0.01	0.09	0.14	0.14	0.15	1.28	2.61	2.62	7/31/1996
MASS STATE EMPLOYEES CASH (NET OF FEES)	35,723	0.1%	0.01	0.01	0.09	0.14	0.14	0.15	1.29	2.61	2.62	7/31/1996
MERRILL LYNCH 90 DAY T BILL ³⁹			0.00	0.00	0.00	0.01	0.06	0.08	1.52			
TEACHERS' AND EMPLOYEES' CASH	67,123	0.1%	0.01	0.01	0.09	0.14	0.14	0.15	1.28	2.78		7/31/1996
TOTAL FUND	61,745,487	100.0%	0.49	0.49	3.11	5.18	11.03	10.11	6.76	9.61		1/31/1985
POLICY RETURN ⁴⁰			0.64	0.64	2.83	4.68	10.37	9.75	6.99	9.69		
TOTAL CORE BENCHMARK			0.43	0.43	3.02	3.84	9.14	8.43	6.34	9.97		

PENSION RESERVES INVESTMENT TRUST
FOOTNOTES
RATES OF RETURN
Periods Ending July 31, 2015

Direct Real Estate

(1) Direct core and value real estate performance is time series weighted and based on property distributed income and capital appreciation/depreciation resulting from external appraisals and dispositions. PRIM's real estate appraisal policy requires that approximately one quarter of the directly owned properties be appraised by a real estate appraiser with an MAI designation every quarter. The goal is to obtain updated market values for each property annually.

(2) The NCREIF Property Index (NPI) is an unleveraged, time series composite measurement of the investment performance of a large group of commercial real estate properties. The NPI is released 25 days after the end of each quarter. Because Mellon's performance report is released earlier, the NPI used as benchmark is lagged one quarter.

(3) Direct Real Estate Manager NAV's are net of property level debt.

Timber/Natural Resources

(4) PRIM's Timber/Natural resources appraisal policy states that all timber/natural resources properties be externally appraised every three years using a full narrative report format. These reports (and property values) are then updated annually by a Timber/Natural Resources Appraiser to reflect changes in timber markets, inventories and land values. The goal is to obtain market values for each timberland annually.

(5) PRIM's timber portfolio currently does not utilize leverage.

(6) The NCREIF Timber/Natural Resources Index (NTI) is an unleveraged, time series composite measurement of the investment performance of individual timber properties. The NTI is released 25 days after the end of each quarter. Because Mellon's performance report is released earlier, the NTI used as benchmark is lagged one quarter.

REITs

(7) The FTSE NAREIT ALL EQUITY REITS Index is an unmanaged index of publicly traded U.S., tax-qualified REITs that have 75% or more of their gross assets invested in the equity ownership of real estate. This index does not include Real Estate Operating Companies (REOCs) although these are acceptable investments as part of the manager's guidelines and included in PRIM's REIT holdings.

(8) The FTSE NAREIT ALL EQUITY REITS index can be considered a "leveraged" index given that the majority of the REITs included in the index use leverage as part of their investment strategy.

ETI

(9) Real estate ETI Funds are primarily invested in development projects with a three to five year lifecycle. These investments require substantial capital investment with very little income during the initial stage of the cycle, resulting in a J curve return profile. The returns are expected later in the cycle, upon project completion and lease up. For lack of a better benchmark, the NPI which is a core property benchmark used to track stabilized, institutional grade properties is used by PRIM. However, Staff is focused more on deal flow quality and on returns generated relative to the risk adjusted returns projected by Managers in their offering memoranda.

Private Equity

(10) Private Equity performance represents time weighted returns reflecting the most recent partnership financial statement valuations (typically lagging one calendar quarter) adjusted for actual cash flows through the reporting date. The Private Equity portfolio consists primarily of assets that are illiquid in nature, and valuations are determined by the General Partner based on current industry fair market value practices. Limited Partnership valuations are reviewed through a formal audit process annually, and valuations are also commonly reviewed by partnership advisory boards on a quarterly basis.

Hedge Fund of Funds

(11) The Hedge Fund of Fund valuations are net of underlying manager fees and net of all Hedge Fund manager administrative, base and performance fees.

**PENSION RESERVES INVESTMENT TRUST
BENCHMARK/COMPOSITE FOOTNOTES
RATES OF RETURN
Periods Ending July 31, 2015**

Interim Benchmark

(1) Interim benchmark is calculated by applying the investment performance of the asset class benchmarks to the Fund's asset allocation targets. The PE component of this uses the S&P 500 + 5% through 6/30/2000; currently Actual PE Performance (formally labeled Interim Policy Benchmark)

Total Core Benchmark

(2) The Total Core benchmark is calculated by applying the investment performance of the asset class benchmarks to the Fund's asset allocation targets. The Private Equity benchmark used for the Total Core benchmark calculation is the 7-year annualized return of the Russell 3000 +3% (formally labeled Policy Benchmark)

Domestic Equity

(3) Russell 2500 through 6/30/14; currently 70.5% Russell 2500/5.5% Russell 2500 Growth/6.5% Russell 2000 Growth/17.5% Russell 2000 Value

(4) Dow Jones Wilshire 5000 through 04/30/08; Russell 3000 through 06/30/2009; 78% Russell 3000/22% 3 Month Libor + 3% through 12/31/2009; Russell 3000 through 10/31/2011; 80% S&P 500/20% Russell 2500 through 6/30/2014; currently 78.9% S&P 500/14.88% Russell 2500/1.16% Russell 2500 Growth/1.37% Russell 2000 Growth/3.69% Russell 2000 Value

International

(5) MSCI EAFE Net Dividends through 9/30/2007; MSCI EAFE Net Dividends Provisional Standard Index through 5/31/2008; MSCI EAFE Net Dividends Standard Index through 12/31/2009; MSCI World ex-US IMI Net Dividends through 12/31/2010; currently Custom World ex-US IMI Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(6) MSCI EAFE Net Dividends through 9/30/2007; MSCI EAFE Net Dividends Provisional Standard Index through 5/31/2008; MSCI EAFE Net Dividends Standard Index through 12/31/2010; currently Custom MSCI EAFE Net Dividends Standard Index, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(7) MSCI EAFE Net Dividends through 9/30/2007; MSCI EAFE Net Dividends Provisional Standard Index through 5/31/2008; MSCI EAFE Net Dividends Standard Index through 12/31/2009; MSCI World ex-US IMI Net Dividends through 12/31/2010; Custom World ex-US IMI Net Dividends through 8/31/2014; currently 50% custom MSCI World Ex-US IMI Net Dividends, 50% Custom MSCI EAFE Standard Index Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities. (Current blend is maintained by MSCI)

Emerging Markets

(8) MSCI Emerging Markets IMI Net Dividends through 12/31/2010; currently Custom MSCI Emerging Markets IMI Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(9) MSCI EMF through 6/30/2004; MSCI Emerging Markets Net Dividends through 9/30/2007; MSCI Emerging Markets Net Dividends Provisional Standard Index through 5/31/2008; MSCI Emerging Markets Net Dividends Standard Index through 12/31/2010; currently Custom MSCI Emerging Markets Net Dividends Standard Index, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(10) MSCI Emerging Markets Small Cap Net Dividends Index through 8/31/2014; currently Custom MSCI Emerging Market Small Cap Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(11) MSCI EMF through 6/30/2004; MSCI Emerging Markets Net Dividends through 9/30/2007; MSCI Emerging Markets Net Dividends Provisional Standard Index through 5/31/2008; MSCI Emerging Markets Net Dividends Standard Index through 4/30/2010; MSCI Emerging Markets IMI Net Dividends through 12/31/2010; Custom MSCI Emerging Markets IMI Net Dividends through 8/31/2014; 50% Custom MSCI EM IMI Net Dividends, 43% Custom MSCI EM Standard Net Dividends, 7% Custom MSCI EM Small Cap Net Dividends through 1/31/2015; 25% Custom MSCI EM IMI Net Dividends, 67.37% Custom MSCI EM Standard Net Dividends, 7% Custom MSCI EM Small Cap Net Dividends, .63% Custom MSCI Frontier Markets Country Capped Net Dividends through 2/28/2015. currently weights are based on the beginning adjusted monthly market value of each index group, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities. (Current blend is maintained by MSCI)

Global Equity

(12) The Total Global Equity composite inception date coincides with the establishment of the MSCI All Country World Index on January 1, 2001.

(13) MSCI All Country World Net Index through 4/30/2010; MSCI All Country World IMI Net Dividends through 12/31/2010; Custom MSCI All Country World IMI Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities through 10/31/2011; 35% S&P 500/8% Russell 2500/42% Custom MSCI World Ex-US IMI Net Dividends/15% Custom MSCI EM IMI Net Dividends through 4/30/2012; 35% S&P 500/9% Russell 2500/40% Custom MSCI World Ex-US IMI Net Dividends/16% Custom MSCI EM IMI Net Dividends through 6/30/2014; currently 44% Domestic Equity BM/40% International Equity BM/16% Emerging Markets BM

Core Fixed Income

(14) Effective 2/28/2015, the Total Aggregate performance was changed to include the complete performance histories of Economically Targeted Investment managers: Access Capital, Community Capital Management, and AFL-CIO Housing Investment. As a result, prior period Total Aggregate performance was revised from 4/30/2004-1/31/2015.

(15) 100% BC Aggregate through 2/28/2014; 34% BC Agg/66% BC STRIPS 20+ through 2/28/2015; currently Domestic Investment Grade Fixed Income benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the core fixed income portfolio.

(16) BC Aggregate through 6/01; 67% BC Aggregate / 20% BC US TIPS/13% Custom Commodities BM ; Custom Commodities BM through 06/30/2009; currently BC ILB USS Hedged

(17) 33% BC US TIPS/67% BC ILB USS Hedged

(18) 77% BC Aggregate / 8% BC US TIPS/15% BC ILB USS Hedged through 2/28/2014; currently weights are based on the beginning adjusted monthly market value of each index group.

Value-Added Fixed Income

(19) CSFB Thru 07/2002; ML Master II HY Thru 02/2007; currently ML Master II HY Constrained Index

(20) Public Value Added benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the public value added fixed income portfolio. These weightings will be automatically adjusted at the end of every quarter for usage in the upcoming quarter.

(21) Actual Performance through 2/07; ML Master II FI Constrained Index through 12/31/2009; currently Altman NYU Salomon Center Combined Defaulted Public Bond & Bank Loan Index

(22) The Total Value-Added Fixed Income composite inception date coincides with PRIM's initiative to separate High Yield from Core Fixed Income. Underlying manager market values and cash flows are unavailable prior to July 1, 2001.

(23) CSFB through 7/02 / 43% ML Master II HY Index/43% JPM EMBI Global/14% Actual Distressed Debt through 02/07/ through 06/08 60% ML Master II HY Constrained Index and 40% JPM EMBI Global/ 50% ML Master II HY Constrained Index/ 33% JPM EMBI Global/17% S&P LSTA Leveraged Index through 06/30/2009; 58% ML Master II HY Constrained Index/ 25% JPM EMBI Global/17% S&P LSTA Leveraged Index through 12/31/2009; 24% ML Master II HY Constrained Index/17% S&P LSTA Leveraged Index/20% JPM EMBI Global/39% Altman Index through 03/31/2010; 24.20% ML Master II HY Constrained Index/16.56% S&P LSTA Leveraged Index/19.43% JPM EMBI Global/39.81% Altman Index through 06/30/2010; 22.10% ML Master II HY Constrained Index/14.60% S&P LSTA Leveraged Loan Index/20.65% JPM EMBI Global/42.65% Altman Index through 09/30/2010; 22.46% ML Master II HY Constrained Index/12.92% S&P LSTA Leveraged Loan Index/21.56% JPM EMBI Global/43.06% Altman Index through 12/31/2010; 22.14% ML Master II HY Constrained Index/11.13% S&P LSTA Leveraged Loan Index/21.60% JPM EMBI Global/45.13% Altman Index through 3/31/2011; 23.15% ML Master II HY Constrained Index/9.45% S&P LSTA Leveraged Loan Index/22.74% JPM EMBI Global/44.66% Altman Index through 6/30/2011; 23.95% ML Master II HY Constrained Index/9.21% S&P LSTA Leveraged Loan Index/22.96% JPM EMBI Global/43.88% Altman Index through 9/30/2011; 21.58% ML Master II HY Constrained Index/11.08% S&P LSTA Leveraged Loan Index/22.24% JPM EMBI Global/45.10% Altman Index through 12/31/2011; 27.90% ML Master II HY Constrained Index/13.58% S&P LSTA Leveraged Loan Index/20.65% JPM EMBI Global/37.87% Altman Index through 3/31/2012; 28.24% ML Master II HY Constrained Index/13.30% S&P LSTA Leveraged Loan Index/20.71% JPM EMBI Global/37.75% Altman Index through 4/30/2012; 23.55% ML Master II HY Constrained Index/10.63% S&P LSTA Leveraged Loan Index/16.61% JPM EMBI Global/20.36% JPM GBI-EM Global Diversified/28.85% Altman Index through 6/30/2012; 18.21% ML Master II HY Constrained Index/11.24% S&P LSTA Leveraged Loan Index/17.63% JPM EMBI Global/20.80% JPM GBI-EM Global Diversified/32.12% Altman Index through 9/30/2012; 18.29% ML Master II HY Constrained Index/11.98% S&P LSTA Leveraged Loan Index/18% JPM EMBI Global/21.03% JPM GBI-EM Global Diversified/30.70% Altman Index through 12/31/2012; 19.40% ML Master II HY Constrained Index/11.90% S&P LSTA Leveraged Loan Index/18.28% JPM EMBI Global/21.32% JPM GBI-EM Global Diversified/29.10% Altman Index through 2/28/2013; Value Added benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the value added fixed income portfolio. These weightings will be automatically adjusted at the end of every quarter for usage in the upcoming quarter.

Private Equity

(24) Through 6/30/2000, S&P 500 + 5%; currently Actual Performance. This benchmark is used in the Interim Policy Benchmark.

(25) The 7 Year Annualized performance is used in the Policy Return and Policy Benchmark.

(26) Wilshire 5000 + 3% through 4/30/2008; Currently 7 Year Annualized Russell 3000 + 3%

PENSION RESERVES INVESTMENT TRUST
BENCHMARK/COMPOSITE FOOTNOTES
RATES OF RETURN
Periods Ending July 31, 2015

Real Estate - Private/Public

(27) On 06/30/02 PRIM instituted portfolio leverage of up to 40%; increased to 50% leverage on 02/03/04. Portfolio leverage was paid down in September 2005 (\$450 million), October 2005 (\$200 million), and July 2007 (\$450 million). Composite includes Value Added Separate Account opened 4/30/2007 and closed 12/31/2010.

(28) FTSE NAREIT ALL EQUITY REITS through 3/31/2008; 63% FTSE EPRA NAREIT Developed REITS/27% NAREIT Global REIT/10% NAREIT International REIT through 06/30/09; 50% FTSE NAREIT ALL EQUITY REITS/50% FTSE EPRA NAREIT Developed Ex US REIT through 4/30/2012; currently 100% FTSE EPRA NAREIT Developed Net Total Return

(29) NCREIF through 6/30/03; 67% NCREIF/33% FTSE NAREIT ALL EQUITY REITS through 12/31/06; NCREIF + Ratio of 2% FTSE NAREIT ALL EQUITY REITS to PRIT Fund through 03/31/08; 73% NCREIF Property One Qtr Lag/17% FTSE NAREIT ALL EQUITY REITS/7.25% NAREIT Global REIT/2.75% NAREIT Intl REIT through 06/30/09; 82% NCREIF Property One Qtr Lag/9% FTSE NAREIT ALL EQUITY REITS/9% FTSE EPRA NAREIT Developed Ex US REIT through 7/31/09; 80% NCREIF Property One Qtr Lag/10% FTSE NAREIT ALL EQUITY REITS/10% FTSE EPRA NAREIT Developed Ex US REIT through 4/30/2012; currently 80% NCREIF PROPERTY ONE QTR LAG/20% FTSE EPRA NAREIT Developed Net Total

Timber/Natural Resources

(30) NCREIF Timber Index through 6/30/03; NCREIF Timber Index Ex-PRIM through 2/28/2010; currently NCREIF Timber Index

(31) Currently Private Natural Resources Actual Performance.

(32) NCREIF Timber Index through 6/30/03; NCREIF Timber Index Ex-PRIM through 06/30/08; 50% NCREIF Timber Index Ex-PRIM/ 42% Lipper Natural Resources Global Fund Index/ 8% Actual Natural Resources Private through 2/28/2010; 50% NCREIF Timber Index/ 42% Lipper Natural Resources Global Fund Index/ 8% Actual Natural Resources Private through 10/31/2011; 53% NCREIF Timber Index/ 39% Lipper Natural Resources Global Fund Index/ 8% Actual Natural Resources Private through 2/28/2014; currently the Timber/Natural Resources benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the Timber/Natural Resources portfolio. These weightings will be automatically adjusted at the end of every quarter for usage in the upcoming quarter.

Hedge Funds

(33) ML 90 Day T-Bill + 4% through 12/31/2009; currently HFRI Fund of Funds Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)

(34) HFRI Fund of Funds Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)

(35) ML 90 Day T-Bill + 4% through 12/31/2009; currently HFRI Fund of Funds Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)

Portfolio Completion Strategies

(36) Portfolio Completion Strategies Composite Index is calculated by applying the underlying benchmark return for each manager to the manager's weight within the Portfolio Completion Strategies Composite. These weights are based on the beginning adjusted monthly market value of each portfolio.

Portable Alpha Wind Down

(37) S&P 500 Index through April 2008; Russell 3000 Index through July 2009; US 3 Month Libor + 3% through 12/31/2009; currently HFRI FOF Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)

Overlay

(38) Actual performance

Total Fund

(39) ML 90 Day T-Bill through 6/30/03; ML 3-Month Libor through 03/31/08; currently ML 90 Day T-Bill

Policy Return

(40) The Policy Return is calculated by applying the investment performance of each asset class times its actual allocation. The Private Equity portion of the Policy Return is the 7-year annualized return of the Private Equity asset class monthized.

(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix D

Callan Investment Measurement Service Monthly Review

*PRIM Investment Committee Meeting
Monday, September 21, 2015*

(This page was intentionally left blank.)

July 31, 2015



Massachusetts Pension Reserves

Investment Management Board

Investment Measurement Service Monthly Review

The following report was prepared by Callan Associates Inc. ("CAI") using information from sources that include the following: fund trustee(s); fund custodian(s); investment manager(s); CAI computer software; CAI investment manager and fund sponsor database; third party data vendors; and other outside sources as directed by the client. CAI assumes no responsibility for the accuracy or completeness of the information provided, or methodologies employed, by any information providers external to CAI. Reasonable care has been taken to assure the accuracy of the CAI database and computer software. Callan does not provide advice regarding, nor shall Callan be responsible for, the purchase, sale, hedge or holding of individual securities, including, without limitation securities of the client (i.e., company stock) or derivatives in the client's accounts. In preparing the following report, CAI has not reviewed the risks of individual security holdings or the conformity of individual security holdings with the client's investment policies and guidelines, nor has it assumed any responsibility to do so. Advice pertaining to the merits of individual securities and derivatives should be discussed with a third party securities expert. Copyright 2015 by Callan Associates Inc.

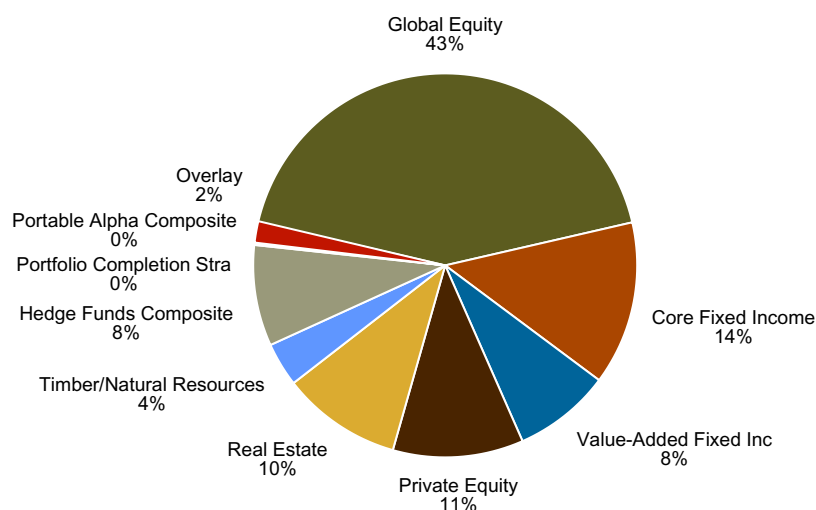
Table of Contents
Massachusetts Pension Reserves Investment Management Board
July 31, 2015

Actual vs Target Asset Allocation	1
Monthly Total Fund Attribution	2
Cumulative Total Fund Attribution	3
Total Fund	8
Global Equity	12
Core Fixed Income	14
Value-Added Fixed Income	16
Private Equity	18
Real Estate	20
Timber/Natural Resources	22
Portfolio Completion Strategy	24
Hedge Funds	26
Portable Alpha Wind Down	28
Total Overlay	30

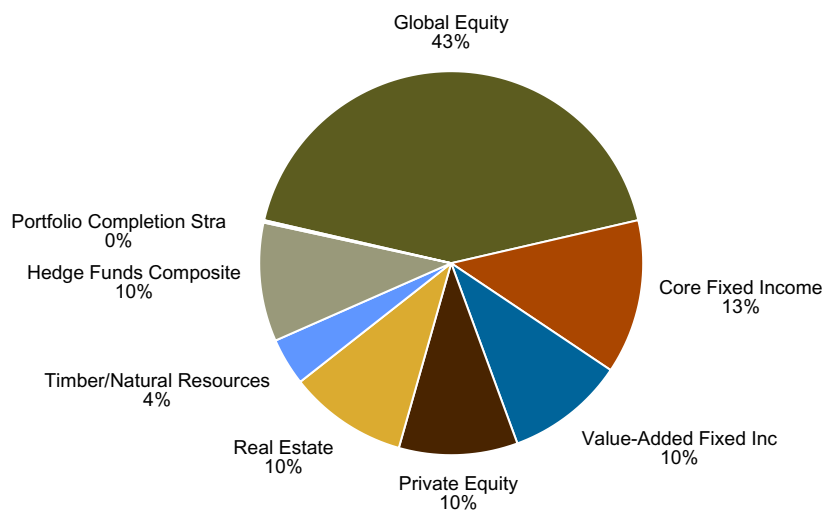
Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of July 31, 2015. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



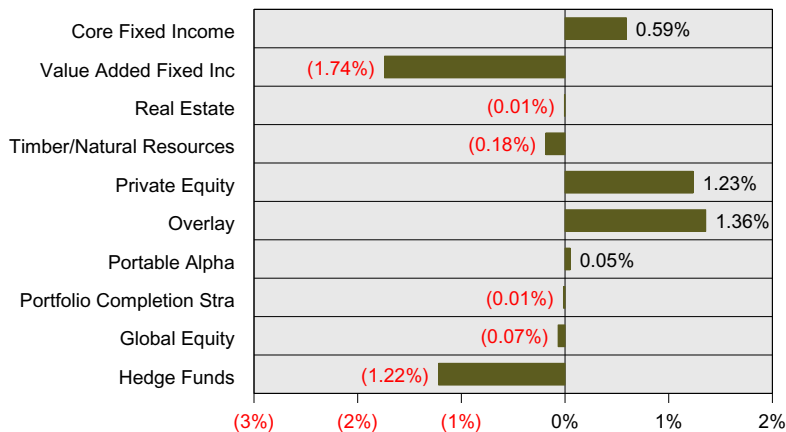
Asset Class	\$000s Actual	Percent Actual	Percent Target	Percent Difference	\$000s Difference
Global Equity	26,292,481	42.8%	42.8%	0.0%	(11,047)
Core Fixed Income	8,486,603	13.8%	13.0%	0.8%	497,214
Value-Added Fixed Inc	5,024,335	8.2%	10.0%	(1.8%)	(1,121,349)
Private Equity	6,783,889	11.0%	10.0%	1.0%	638,205
Real Estate	6,179,519	10.1%	10.0%	0.1%	33,835
Timber/Natural Resources	2,268,541	3.7%	4.0%	(0.3%)	(189,733)
Hedge Funds Composite	5,196,678	8.5%	10.0%	(1.5%)	(949,006)
Portfolio Completion Stra	98,114	0.2%	0.2%	0.0%	(24,800)
Portable Alpha Composite	27,931	0.0%	0.0%	0.0%	27,931
Overlay	1,098,748	1.8%	0.0%	1.8%	1,098,748
Total	61,456,840	100.0%	100.0%		

*Current Month Target Performance is calculated using monthly rebalancing.

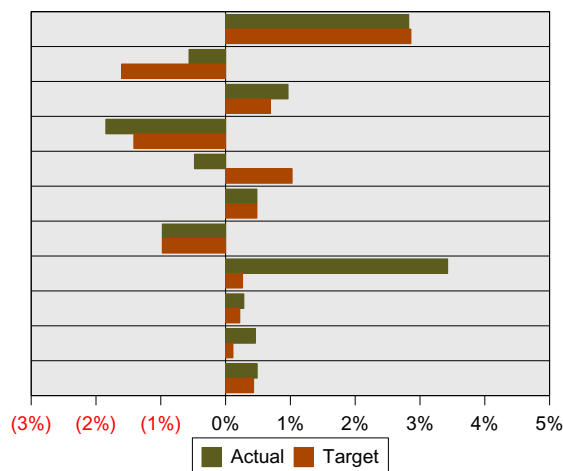
Monthly Total Fund Relative Attribution - July 31, 2015

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

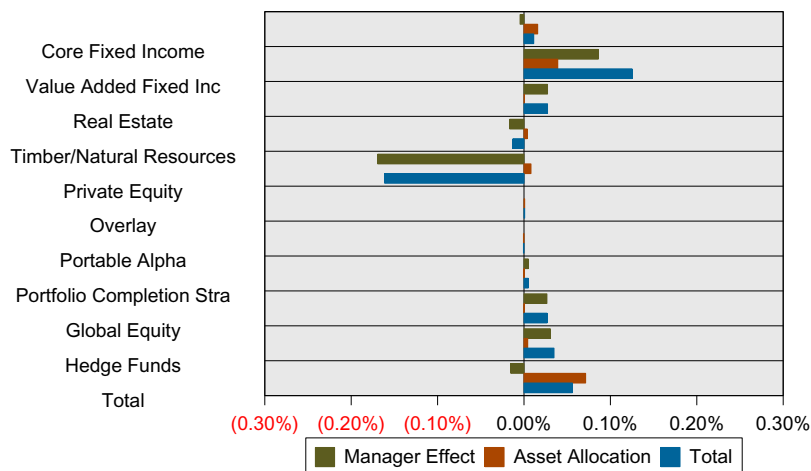
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended July 31, 2015

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Core Fixed Income	14%	13%	2.83%	2.86%	(0.00%)	0.02%	0.01%
Value Added Fixed Inc	8%	10%	(0.56%)	(1.61%)	0.09%	0.04%	0.13%
Real Estate	10%	10%	0.96%	0.69%	0.03%	(0.00%)	0.03%
Timber/Natural Resources	4%	4%	(1.85%)	(1.42%)	(0.02%)	0.00%	(0.01%)
Private Equity	11%	10%	(0.48%)	1.03%	(0.17%)	0.01%	(0.16%)
Overlay	1%	0%	0.48%	0.48%	0.00%	0.00%	0.00%
Portable Alpha	0%	0%	(0.98%)	(0.98%)	0.00%	(0.00%)	(0.00%)
Portfolio Completion Stra	0%	0%	3.43%	0.26%	0.00%	0.00%	0.00%
Global Equity	43%	43%	0.28%	0.22%	0.03%	0.00%	0.03%
Hedge Funds	9%	10%	0.46%	0.11%	0.03%	0.00%	0.03%

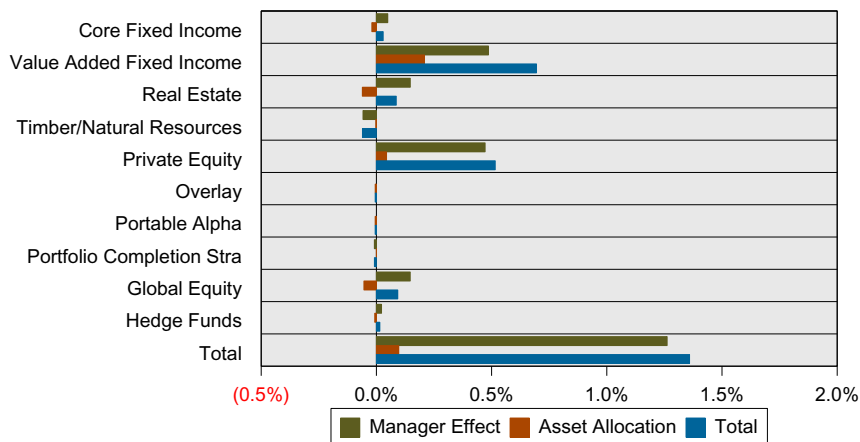
Total **0.49% = 0.43% + (0.02%) + 0.07%** **0.06%**

* Current Month Target = 42.8% Global Equity Benchmark (12), 13.0% Core Fixed Income Benchmark, 10.0% Value-Added FI Benchmark (21), 10.0% Real Estate Benchmark (27), 10.0% Hedge Fund Benchmark (33), 10.0% 7 YEAR ANNUALIZED Rus 3000+3% (24), 4.0% Timberland/Natural Benchmark (30) and 0.2% MassPRIM-Portfolio Completion Stat B.
Attribution is run on Gross returns.

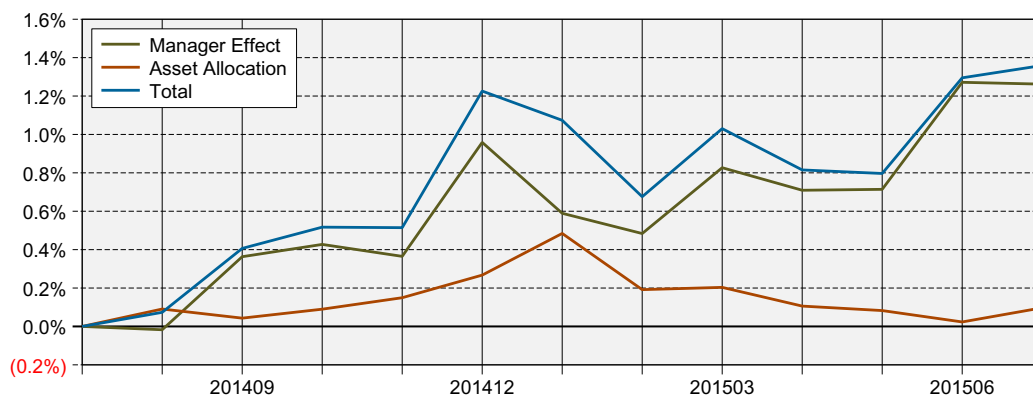
Cumulative Total Fund Relative Attribution - July 31, 2015

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

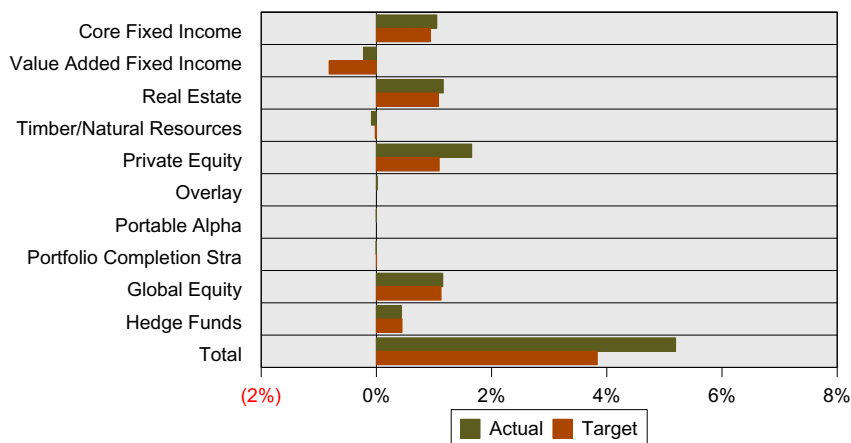
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Core Fixed Income	15%	13%	7.26%	6.91%	0.05%	(0.02%)	0.03%
Value Added Fixed Income	8%	10%	(2.58%)	(7.86%)	0.49%	0.21%	0.69%
Real Estate	9%	10%	12.62%	11.00%	0.15%	(0.06%)	0.09%
Timber/Natural Resources	4%	4%	(2.13%)	(0.66%)	(0.06%)	(0.00%)	(0.06%)
Private Equity	11%	10%	15.74%	11.20%	0.47%	0.04%	0.52%
Overlay	1%	0%	3.48%	3.48%	0.00%	(0.01%)	(0.01%)
Portable Alpha	0%	0%	(5.04%)	(5.04%)	0.00%	(0.01%)	(0.01%)
Portfolio Completion Stra	0%	0%	(1.84%)	1.84%	(0.01%)	0.00%	(0.01%)
Global Equity	42%	43%	2.67%	2.34%	0.15%	(0.05%)	0.09%
Hedge Funds	9%	10%	4.69%	4.43%	0.02%	(0.01%)	0.01%
Total			5.19%	3.84%	1.26%	0.10%	1.36%

* Current Month Target = 42.8% Global Equity Benchmark (12), 13.0% Core Fixed Income Benchmark, 10.0% Value-Added FI Benchmark (21), 10.0% Real Estate Benchmark (27), 10.0% Hedge Fund Benchmark (33), 10.0% 7 YEAR ANNUALIZED Rus 3000+3% (24), 4.0% Timberland/Natural Benchmark (30) and 0.2% MassPRIM-Portfolio Completion Stat B.
Attribution is run on Gross returns.

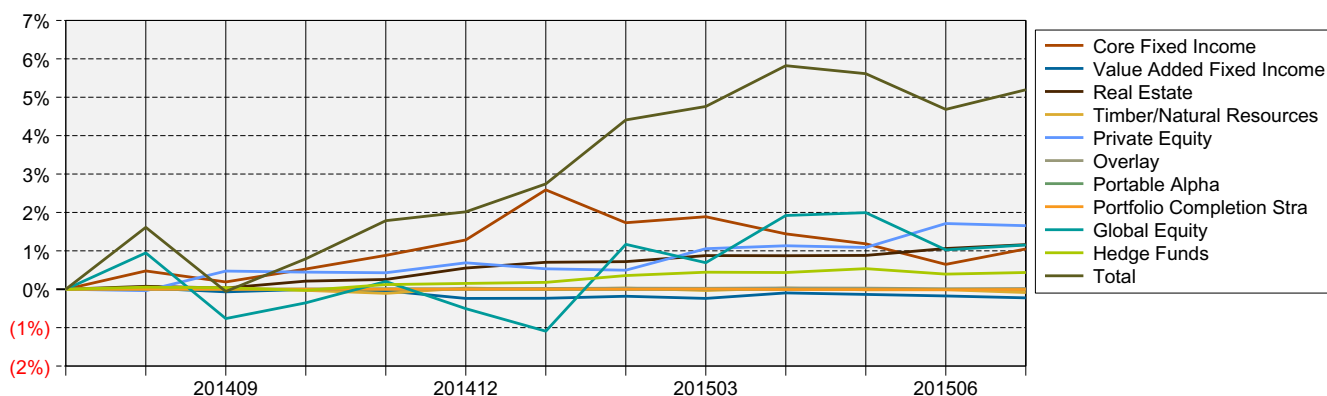
Cumulative Total Fund Absolute Attribution - July 31, 2015

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of absolute total fund Performance and target performance. These cumulative results quantify the longer-term contribution of each asset class to absolute total fund return as well as the target return.

One Year Absolute Return Contributions



Cumulative Absolute Return Contributions



One Year Absolute Attribution Effects

Asset Class	Effective Actual Weight	Actual Return	Absolute Return Contribution	Effective Target Weight	Target Return	Target Return Contribution	Return Contribution Difference
Core Fixed Income	15%	7.26%	1.05%	13%	6.91%	0.94%	0.11%
Value Added Fixed Income	8%	(2.58%)	(0.22%)	10%	(7.86%)	(0.82%)	0.60%
Real Estate	9%	12.62%	1.16%	10%	11.00%	1.08%	0.09%
Timber/Natural Resources	4%	(2.13%)	(0.09%)	4%	(0.66%)	(0.02%)	(0.07%)
Private Equity	11%	15.74%	1.65%	10%	11.20%	1.09%	0.56%
Overlay	1%	3.48%	0.02%	0%	3.48%	0.00%	0.02%
Portable Alpha	0%	(5.04%)	(0.00%)	0%	(5.04%)	0.00%	(0.00%)
Portfolio Completion Stra	0%	(1.84%)	(0.01%)	0%	1.84%	0.00%	(0.01%)
Global Equity	42%	2.67%	1.15%	43%	2.34%	1.12%	0.03%
Hedge Funds	9%	4.69%	0.44%	10%	4.43%	0.44%	(0.01%)

Total Fund Return 5.19%

Target Return 3.84%

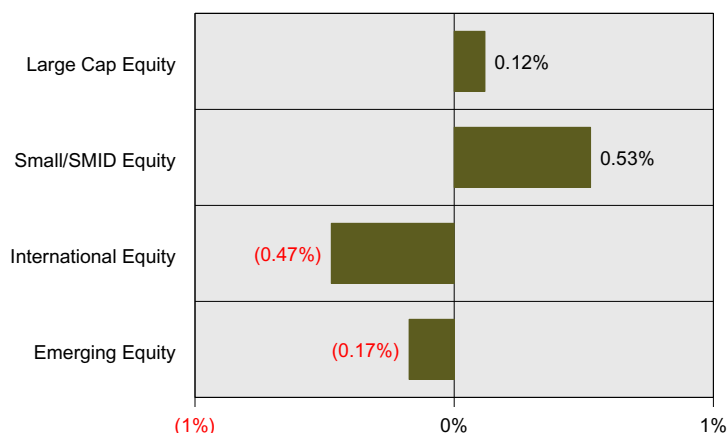
1.36%

* Current Month Target = 42.8% Global Equity Benchmark (12), 13.0% Core Fixed Income Benchmark, 10.0% Value-Added FI Benchmark (21), 10.0% Real Estate Benchmark (27), 10.0% Hedge Fund Benchmark (33), 10.0% 7 YEAR ANNUALIZED Rus 3000+3% (24), 4.0% Timberland/Natural Benchmark (30) and 0.2% MassPRIM-Portfolio Completion Stat B.
Attribution is run on Gross returns.

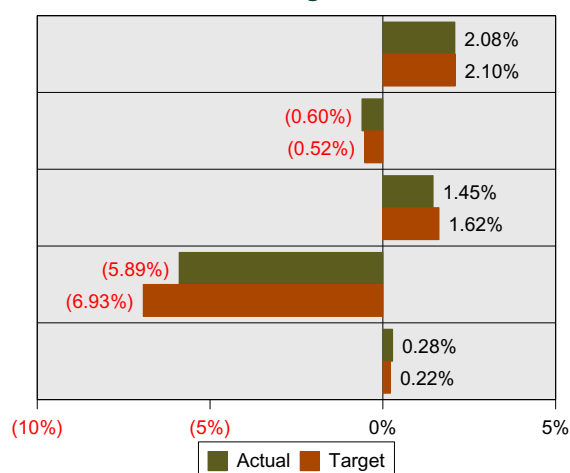
Monthly Total Fund Relative Attribution - July 31, 2015

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

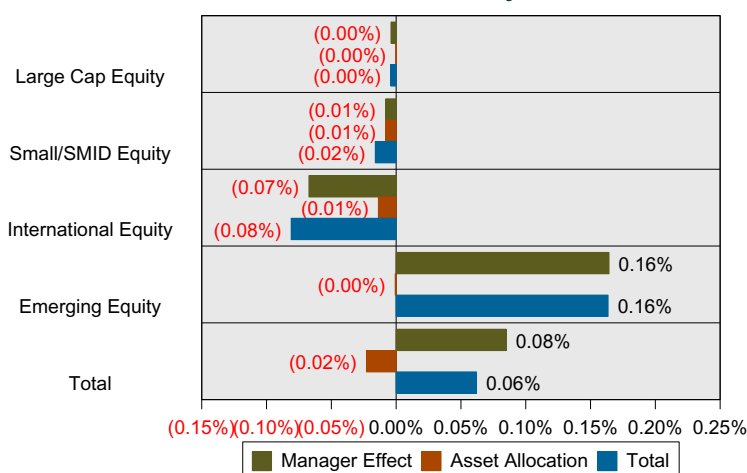
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended July 31, 2015

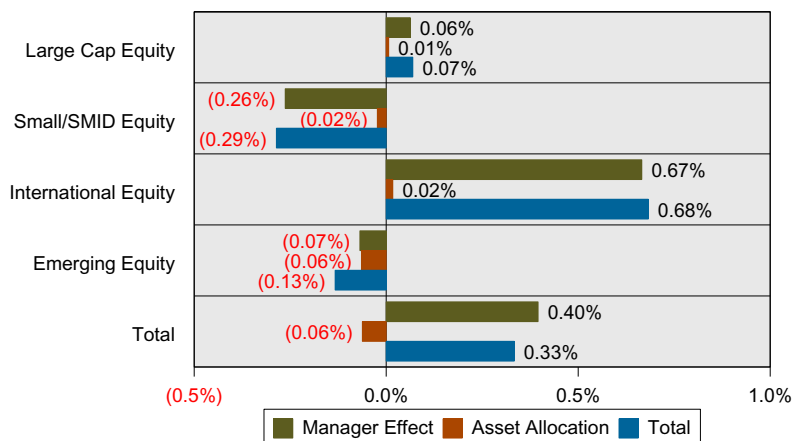
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	35%	35%	2.08%	2.10%	(0.00%)	(0.00%)	(0.00%)
Small/SMID Equity	10%	9%	(0.60%)	(0.52%)	(0.01%)	(0.01%)	(0.02%)
International Equity	40%	40%	1.45%	1.62%	(0.07%)	(0.01%)	(0.08%)
Emerging Equity	16%	16%	(5.89%)	(6.93%)	0.16%	(0.00%)	0.16%
Total			0.28%	0.22%	0.08%	(0.02%)	0.06%

* Current Month Target = 40.0% Custom World Ex-US IMI Net Divs (7), 34.7% S&P 500 Index, 16.0% Custom MSCI EM IMI Net Divs (10), 6.5% Russell 2500 Index, 1.6% Russell 2000 Value Index, 0.6% Russell 2000 Growth Index and 0.5% Russell 2500 Growth Index.
Attribution is run on Gross returns.

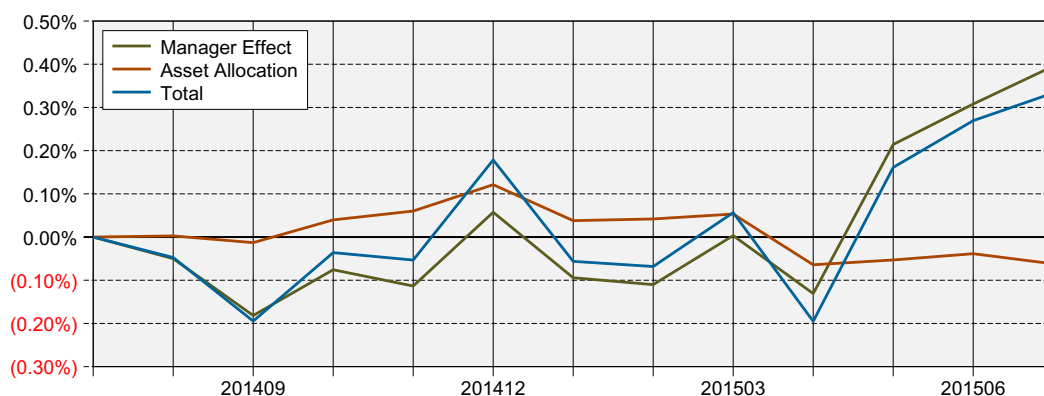
Cumulative Total Fund Relative Attribution - July 31, 2015

The charts below accumulate the Total Global Equity Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total global equity fund performance relative to target. These cumulative results quantify the longer-term sources of total global equity fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total global equity fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

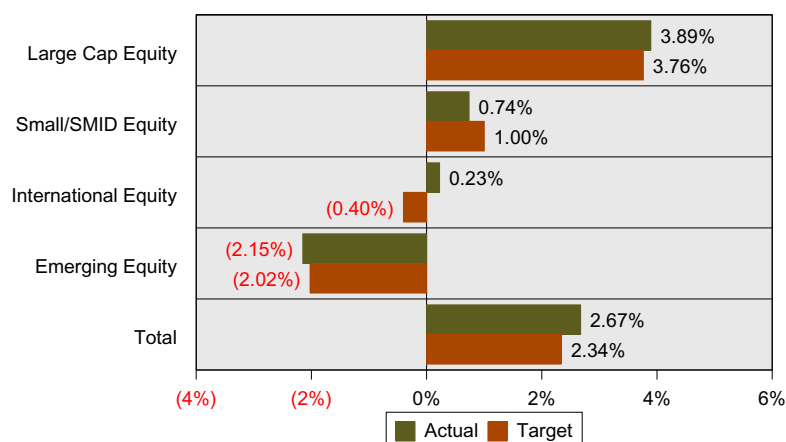
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	36%	35%	11.39%	11.21%	0.06%	0.01%	0.07%
Small/SMID Equity	10%	9%	8.00%	10.93%	(0.26%)	(0.02%)	(0.29%)
International Equity	39%	40%	0.55%	(1.14%)	0.67%	0.02%	0.68%
Emerging Equity	16%	16%	(12.58%)	(12.27%)	(0.07%)	(0.06%)	(0.13%)
Total			2.67%	2.34%	+ 0.40%	+ (0.06%)	0.33%

* Current Month Target = 40.0% Custom World Ex-US IMI Net Divs (7), 34.7% S&P 500 Index, 16.0% Custom MSCI EM IMI Net Divs (10), 6.5% Russell 2500 Index, 1.6% Russell 2000 Value Index, 0.6% Russell 2000 Growth Index and 0.5% Russell 2500 Growth Index.
Attribution is run on Gross returns.

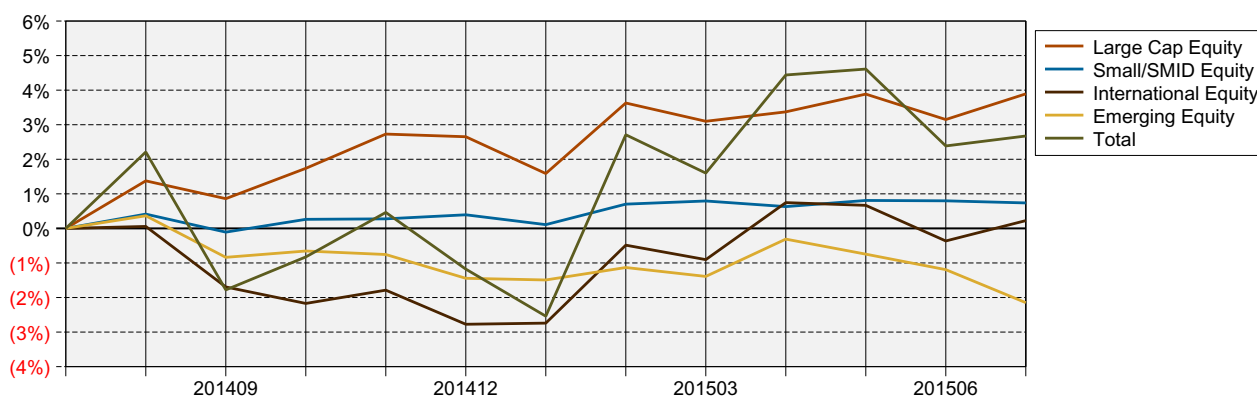
Cumulative Total Fund Absolute Attribution - July 31, 2015

The charts below accumulate the Total Global Equity Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total global equity fund performance relative to target. These cumulative results quantify the longer-term sources of total global equity fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total global equity fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Absolute Return Contributions



Cumulative Absolute Return Contributions



One Year Absolute Attribution Effects

Asset Class	Effective Actual Weight	Actual Return	Absolute Return Contribution	Effective Target Weight	Target Return	Target Return Contribution	Return Contribution Difference
Large Cap Equity	36%	11.39%	3.89%	35%	11.21%	3.76%	0.13%
Small/SMID Equity	10%	8.00%	0.74%	9%	10.93%	1.00%	(0.26%)
International Equity	39%	0.55%	0.23%	40%	(1.14%)	(0.40%)	0.63%
Emerging Equity	16%	(12.58%)	(2.15%)	16%	(12.27%)	(2.02%)	(0.13%)
Total Fund Return			2.67%	Target Return			0.33%

* Current Month Target = 40.0% Custom World Ex-US IMI Net Divs (7), 34.7% S&P 500 Index, 16.0% Custom MSCI EM IMI Net Divs (10), 6.5% Russell 2500 Index, 1.6% Russell 2000 Value Index, 0.6% Russell 2000 Growth Index and 0.5% Russell 2500 Growth Index. Attribution is run on Gross returns.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of January 31, 2015, with the distribution as of December 31, 2014. All Returns and market values provided by custodian.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Total Fund	Market Value	% of Total Fund
Total Global Equity	\$26,292,481,051	42.58%	\$26,097,951,300	42.61%
Intech	910,596,517	1.47%	886,396,382	1.45%
PIMCO Stock Plus	945,714,959	1.53%	926,181,873	1.51%
SSgA S&P 500	7,383,167,646	11.96%	7,367,984,710	12.03%
Summit Creek SCG	216,221,969	0.35%	212,091,555	0.35%
Frontier SCV	178,542,071	0.29%	182,869,503	0.30%
Huber SCV	247,837,154	0.40%	258,486,774	0.42%
Riverbridge SMIDG	170,370,398	0.28%	167,014,402	0.27%
SouthernSun SMID	149,975,123	0.24%	155,016,477	0.25%
SSgA Russell 2500	1,586,247,848	2.57%	1,589,946,661	2.60%
Domestic Equity Closed Portfolios	0	0.00%	138	0.00%
Domestic Eq. Cash	1,292,617	0.00%	-635,771	(0.00%)
SSgA World ex-US	5,221,281,121	8.46%	5,154,160,650	8.42%
Marathon Asset Mgmt	2,518,413,407	4.08%	2,468,186,814	4.03%
Baillie Gifford	1,819,656,065	2.95%	1,815,041,445	2.96%
Mondrian Investment Partners	819,371,956	1.33%	794,659,875	1.30%
FIS	110,300,849	0.18%	108,144,844	0.18%
International Equity Cash	1,385,358	0.00%	1,096,532	0.00%
SSgA Emerging Markets	992,389,247	1.61%	1,038,912,981	1.70%
AQR Emerging	512,357,961	0.83%	483,908,791	0.79%
Baillie Gifford EMM	560,627,010	0.91%	561,314,237	0.92%
Driehaud Capital	584,530,876	0.95%	586,818,276	0.96%
Harding Loevner	405,969,251	0.66%	373,988,940	0.61%
Pzena Inv	513,145,729	0.83%	505,835,575	0.83%
Acadian EM SC	136,739,451	0.22%	145,922,623	0.24%
Wasatch EM SC	102,542,516	0.17%	106,088,128	0.17%
Acadian FM	50,818,255	0.08%	40,086,213	0.07%
City of London FM	100,291,051	0.16%	101,612,966	0.17%
Emerging Markets Transition	52,478,357	0.08%	65,348,252	0.11%
Emerging Markets Cash	303,208	0.00%	1,473,494	0.00%
Core Fixed Income	\$8,486,603,384	13.74%	\$8,377,733,753	13.68%
Blackrock Passive (Core)	889,417,330	1.44%	508,664,708	0.83%
PIMCO (Core)	793,110,589	1.28%	788,245,144	1.29%
Loomis Sayles Core Corporate	1,127,496,449	1.83%	1,120,761,762	1.83%
Blackrock STRIPS	3,557,924,765	5.76%	3,860,953,727	6.30%
Blackrock TIPS	595,518,930	0.96%	594,741,796	0.97%
Blackrock Global ILBs	1,266,523,205	2.05%	1,249,627,424	2.04%
Access Capital/Merrill Lnch ETI	103,062,742	0.17%	102,668,105	0.17%
Community Capital Management	27,764,813	0.04%	27,594,945	0.05%
AFL-CIO Housing Investor Trust	125,290,446	0.20%	124,472,968	0.20%
Core FI Closed Portfolios	751	0.00%	752	0.00%
Core Fixed Cash	493,363	0.00%	2,423	0.00%
Value Added Fixed Income	\$5,024,335,305	8.14%	\$5,053,194,500	8.25%
Fidelity (High Yield)	318,158,027	0.52%	317,432,969	0.52%
Loomis Sayles High Yield	325,034,179	0.53%	327,944,082	0.54%
Shenkman	301,739,172	0.49%	303,062,767	0.49%
FI Distressed Debt Cash	-9,590,212	(0.02%)	-428,389	(0.00%)
FI High Yield Debt Cash	107,250	0.00%	62,985	0.00%
Eaton Vance Bank Loans	471,038,490	0.76%	470,542,790	0.77%
ING Bank Loans	467,584,472	0.76%	465,830,540	0.76%
Ashmore Emerging Markets Debt	490,812,720	0.79%	489,951,301	0.80%
PIMCO Emerging Debt	307,596,196	0.50%	307,387,207	0.50%
Investec EM Debt	276,912,897	0.45%	283,814,173	0.46%
Pictet EM Debt	444,605,326	0.72%	455,284,572	0.74%
Stone Harbor EM Debt	273,157,318	0.44%	281,557,879	0.46%
Distressed Debt Portfolio	1,357,179,472	2.20%	1,350,751,623	2.21%

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of January 31, 2015, with the distribution as of December 31, 2014. All Returns and market values provided by custodian.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Total Fund	Market Value	% of Total Fund
Private Equity	\$6,783,888,985	10.99%	\$6,935,726,050	11.32%
Special Equity	19,141,834	0.03%	20,109,378	0.03%
Special Equity 2000	26,277,508	0.04%	26,277,508	0.04%
Special Equity 2001	58,673,948	0.10%	58,974,950	0.10%
Special Equity 2002	5,405,428	0.01%	5,931,014	0.01%
Special Equity 2003	93,465,135	0.15%	93,532,161	0.15%
Special Equity 2004	77,776,536	0.13%	79,431,783	0.13%
Special Equity 2005	392,258,801	0.64%	462,543,919	0.76%
Special Equity 2006	632,790,165	1.02%	664,031,231	1.08%
Special Equity 2007	905,945,916	1.47%	916,867,633	1.50%
Special Equity 2008	907,351,211	1.47%	917,469,664	1.50%
Special Equity 2009	232,031,626	0.38%	240,603,028	0.39%
Special Equity 2010	499,892,715	0.81%	499,110,262	0.81%
Special Equity 2011	560,046,918	0.91%	555,382,871	0.91%
Special Equity 2012	242,097,333	0.39%	241,373,337	0.39%
Special Equity 2013	168,111,561	0.27%	160,563,600	0.26%
Special Equity 2014	175,323,376	0.28%	145,969,106	0.24%
Special Equity 2015	66,105,052	0.11%	46,353,727	0.08%
Venture Capital	12,953,229	0.02%	14,025,229	0.02%
Venture Capital 2000	67,359,185	0.11%	68,031,856	0.11%
Venture Capital 2001	39,179,753	0.06%	39,196,486	0.06%
Venture Capital 2002	14,159,907	0.02%	14,159,907	0.02%
Venture Capital 2003	30,762,823	0.05%	31,565,111	0.05%
Venture Capital 2004	36,050,216	0.06%	36,050,216	0.06%
Venture Capital 2005	118,650,464	0.19%	120,089,920	0.20%
Venture Capital 2006	135,519,347	0.22%	137,004,347	0.22%
Venture Capital 2007	191,584,088	0.31%	193,133,428	0.32%
Venture Capital 2008	31,509,807	0.05%	31,509,807	0.05%
Venture Capital 2009	230,766,673	0.37%	248,305,506	0.41%
Venture Capital 2010	256,799,933	0.42%	266,451,442	0.44%
Venture Capital 2011	89,801,345	0.15%	87,853,219	0.14%
Venture Capital 2012	213,484,734	0.35%	206,057,612	0.34%
Venture Capital 2013	43,071,323	0.07%	41,821,323	0.07%
Venture Capital 2014	46,817,727	0.08%	43,817,868	0.07%
Venture Capital 2015	3,496,814	0.01%	1,371,814	0.00%
Private Equity Cash	159,226,547	0.26%	220,755,804	0.36%
Real Estate	\$6,179,518,667	10.01%	\$6,093,142,272	9.95%
Invesco Core	1,116,785,044	1.81%	1,115,216,044	1.82%
LaSalle Core	1,480,810,775	2.40%	1,556,639,446	2.54%
AEW Core	993,977,967	1.61%	988,715,767	1.61%
JP Morgan I.M.	755,124,720	1.22%	754,953,656	1.23%
TA Associates	1,155,908,128	1.87%	1,109,776,283	1.81%
Core Real Estate Portfolio Debt	-1,002,037,756	(1.62%)	-999,907,266	(1.63%)
Canyon-Johnson II	5,518,556	0.01%	5,518,556	0.01%
Intercontinental IV	1,035,695	0.00%	1,035,695	0.00%
New Boston Urban I	7,450,445	0.01%	7,450,445	0.01%
Non Core 2011	419,787,858	0.68%	409,971,817	0.67%
INVESCO Global REIT	273,751,138	0.44%	264,037,448	0.43%
CenterSquare Global REIT	780,094,186	1.26%	753,455,466	1.23%
EII (INVESCO TRAN)	149,615,497	0.24%	144,324,777	0.24%
RREEF/European Investors Tran	26,211	0.00%	27,313	0.00%
Real Estate Leverage Cash	-11,020	(0.00%)	-94,266	(0.00%)
REIT Cash	47,261	0.00%	24,811	0.00%
Core Real Estate Cash	41,633,931	0.07%	-18,003,720	(0.03%)

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of January 31, 2015, with the distribution as of December 31, 2014. All Returns and market values provided by custodian.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Total Fund	Market Value	% of Total Fund
Timber/Natural Resources	\$2,268,540,919	3.67%	\$2,347,050,322	3.83%
Forest Investment Associates	1,109,272,886	1.80%	1,109,272,886	1.81%
The Campbell Group	543,000,271	0.88%	549,694,971	0.90%
Timber Cash	5,420	0.00%	36,714,907	0.06%
Jennison Natural Resources	166,914,038	0.27%	188,501,646	0.31%
T Rowe Natural Resources	179,688,491	0.29%	193,291,066	0.32%
Public Natural Resources Cash	2,825	0.00%	1,485	0.00%
Private Natural Resources	268,916,736	0.44%	269,792,600	0.44%
Private Natural Resources Cash	740,252	0.00%	-219,239	(0.00%)
Portfolio Completion Strategy	\$98,113,739	0.16%	\$94,882,180	0.15%
Portfolio Completion Strategy	98,113,739	0.16%	94,882,180	0.15%
Hedge Funds	\$5,196,678,486	8.42%	\$5,575,152,724	9.10%
Arden HFOF (Liquidating)	47,906,085	0.08%	52,531,717	0.09%
Ivy (Liquidating)	4,684,780	0.01%	4,692,340	0.01%
PAAMCO	997,221,235	1.62%	1,210,769,665	1.98%
Direct Hedge Funds	4,112,852,167	6.66%	4,056,051,431	6.62%
Hedge Fund Cash	34,014,219	0.06%	251,107,571	0.41%
Portable Alpha	\$27,931,301	0.05%	\$32,056,768	0.05%
Austin Capital Management	1,576,464	0.00%	1,596,713	0.00%
Crestline Advisors	11,144,460	0.02%	11,223,216	0.02%
Strategic Investment	15,185,620	0.02%	15,384,770	0.03%
Portable Alpha Cash	24,757	0.00%	3,852,069	0.01%
Total Overlay	\$1,098,747,823	1.78%	\$567,426,575	0.93%
Clifton Overlay	178,599,422	0.29%	168,947,006	0.28%
Overlay Cash	920,148,401	1.49%	398,479,569	0.65%
Participant Cash	221,524,869	0.36%	21,175,315	0.03%
Teachers and Employees Cash	67,122,687	0.11%	48,252,787	0.08%
Total Fund	\$61,745,487,215	100.0%	\$61,243,744,546	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Total Fund ex-cash (Core)	0.49%	5.19%	11.07%	10.15%
Interim Benchmark (1)	0.28%	4.31%	10.08%	9.39%
Total Core Bechmark (2)	0.43%	3.83%	9.14%	8.43%
Global Equity	0.28%	2.67%	13.34%	11.03%
Global Equity Benchmark (13)	0.22%	2.34%	12.84%	10.37%
Core Fixed Income	2.83%	7.26%	3.77%	5.09%
Core Fixed-Income Bench (18)	2.86%	6.91%	3.25%	4.60%
Value-Added Fixed Income	(0.56%)	(2.58%)	4.17%	6.42%
Value-Added Benchmark (23)	(1.61%)	(7.86%)	2.03%	4.09%
Private Equity	(0.48%)	15.74%	18.77%	18.13%
Private Equity Benchmark (24)	(0.48%)	15.74%	18.77%	18.13%
Private Equity Benchmark (26)	1.03%	11.20%	9.49%	8.63%
Real Estate	0.96%	12.62%	12.69%	13.39%
Real Estate Benchmark (29)	0.69%	11.00%	11.18%	12.67%
Timber/Natural Resources	(1.85%)	(2.13%)	5.29%	4.82%
Timber/Natural Benchmark (32)	(1.42%)	(0.66%)	6.63%	5.20%
Portfolio Completion Strategy	3.43%	-	-	-
Portfolio Completion Benchmark (36)	0.26%	-	-	-
Hedge Funds	0.46%	4.69%	8.69%	6.35%
Hedge Funds Benchmark (35)	0.11%	4.43%	6.03%	4.03%
Portable Alpha	(0.98%)	(5.04%)	(2.84%)	(2.15%)
Portable Alpha Benchmark (37)	0.11%	4.43%	6.03%	4.03%
Total Overlay	0.48%	3.48%	-	-
Total Overlay Benchmark (38)	0.48%	3.48%	-	-
Participant Cash	0.01%	0.14%	0.14%	0.15%
Teachers and Employees Cash	0.01%	0.14%	0.14%	0.15%
Merrill Lynch 90 Day Tbill (39)	(0.00%)	0.01%	0.06%	0.08%
Total Fund	0.49%	5.18%	11.03%	10.11%
Interim Benchmark (1)	0.28%	4.31%	10.08%	9.39%
Total Core Bechmark (2)	0.43%	3.83%	9.14%	8.43%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Domestic Equity	\$11,789,966,301	44.84%	\$11,745,352,704	45.00%
Large Cap	\$9,239,479,122	35.14%	\$9,180,562,966	35.18%
Intech	910,596,517	3.46%	886,396,382	3.40%
PIMCO Stock Plus	945,714,959	3.60%	926,181,873	3.55%
SSgA S&P 500	7,383,167,646	28.08%	7,367,984,710	28.23%
Small/SMID Cap Core	\$2,549,194,563	9.70%	\$2,565,425,371	9.83%
Small Cap Growth				
Summit Creek SCG	216,221,969	0.82%	212,091,555	0.81%
Small Cap Value	\$426,379,225	1.62%	\$441,356,277	1.69%
Frontier SCV	178,542,071	0.68%	182,869,503	0.70%
Huber SCV	247,837,154	0.94%	258,486,774	0.99%
SMID Growth				
Riverbridge SMIDG	170,370,398	0.65%	167,014,402	0.64%
SMID Cap Core	\$1,736,222,971	6.60%	\$1,744,963,138	6.69%
SouthernSun SMID	149,975,123	0.57%	155,016,477	0.59%
SSgA Russell 2500	1,586,247,848	6.03%	1,589,946,661	6.09%
Domestic Equity Closed Portfolios	0	0.00%	138	0.00%
Domestic Eq. Cash	1,292,617	0.00%	-635,771	(0.00%)
International Equity	\$10,490,422,976	39.90%	\$10,341,306,709	39.62%
SSgA World ex-US	5,221,281,121	19.86%	5,154,160,650	19.75%
Marathon Asset Mgmt	2,518,413,407	9.58%	2,468,186,814	9.46%
Baillie Gifford	1,819,656,065	6.92%	1,815,041,445	6.95%
Mondrian Investment Partners	819,371,956	3.12%	794,659,875	3.04%
FIS	110,300,849	0.42%	108,144,844	0.41%
International Equity Cash	1,385,358	0.01%	1,096,532	0.00%
Emerging Markets	\$4,012,091,773	15.26%	\$4,011,291,888	15.37%
Acadian Frontier	50,659,736	0.19%	39,991,098	0.15%
SSgA Emerging Markets	992,389,247	3.77%	1,038,912,981	3.98%
AQR Emerging	512,357,961	1.95%	483,908,791	1.85%
Baillie Gifford EMM	560,627,010	2.13%	561,314,237	2.15%
Driehaud Capital	584,530,876	2.22%	586,818,276	2.25%
Harding Loevner	405,969,251	1.54%	373,988,940	1.43%
Pzena Inv	513,145,729	1.95%	505,835,575	1.94%
Acadian EM SC	136,739,451	0.52%	145,922,623	0.56%
Wasatch EM SC	102,542,516	0.39%	106,088,128	0.41%
City of London EM	100,291,051	0.38%	101,612,966	0.39%
Emerging Markets Transition	52,478,357	0.20%	65,348,252	0.25%
Emerging Markets Cash	303,208	0.00%	1,473,494	0.01%
Total Global Equity	\$26,292,481,051	100.0%	\$26,097,951,300	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Domestic Equity	1.51%	10.71%	17.85%	16.19%
Domestic Equity Benchmark (4)	1.54%	11.20%	17.81%	16.24%
Large Cap	2.08%	11.39%	17.88%	18.23%
Intech	2.75%	14.47%	18.79%	17.14%
PIMCO Stock Plus	2.06%	11.23%	18.20%	17.32%
SSgA S&P 500	2.00%	11.00%	17.72%	-
S&P 500 Index	2.10%	11.21%	17.58%	16.24%
Small/SMID Cap Core	(0.60%)	8.00%	17.54%	-
Small/SMID Benchmark (3)	(0.52%)	10.93%	18.65%	-
Small Cap Growth				
Summit Creek SCG	2.02%	16.59%	-	-
Russell 2000 Growth Index	0.41%	20.07%	20.98%	17.90%
Small Cap Value	(3.30%)	(4.55%)	-	-
Frontier SCV	(2.29%)	4.99%	-	-
Huber SCV	(4.01%)	(10.41%)	-	-
Russell 2000 Value Index	(2.76%)	4.30%	14.82%	12.60%
SMID Cap Growth				
Riverbridge SMIDG	2.07%	18.10%	-	-
Russell 2500 Growth Index	1.18%	18.59%	21.22%	18.29%
SMID Cap Core	(0.50%)	9.62%	18.48%	-
SouthernSun SMID	(3.19%)	(3.26%)	-	-
SSgA Russell 2500	(0.23%)	11.02%	18.59%	-
Russell 2500 Index	(0.19%)	11.19%	18.86%	16.22%
International Equity	1.45%	0.55%	13.14%	9.25%
International Equity Benchmark (7)	1.62%	(1.14%)	11.92%	7.75%
SSgA World ex-US	1.30%	(1.44%)	12.22%	8.13%
International Equity Benchmark (5)	1.27%	(2.12%)	11.55%	7.54%
Marathon Asset Mgmt	2.06%	4.21%	15.36%	11.06%
Baillie Gifford	0.28%	0.44%	12.31%	9.66%
Mondrian Investment Partners	3.14%	1.94%	14.09%	9.27%
FIS	2.04%	2.65%	-	-
International Equity Benchmark (6)	1.98%	(0.42%)	12.39%	7.93%
Emerging Markets	(5.89%)	(12.58%)	1.49%	1.12%
EM Benchmark (8)	(6.93%)	(12.27%)	1.45%	0.89%
SSgA Emerging Markets	(7.16%)	(12.22%)	1.55%	1.16%
CUSTOM MSCI EM IMI NET DIVS (8)	(7.10%)	(12.35%)	1.42%	0.87%
AQR Emerging	(7.50%)	-	-	-
Baillie Gifford EMM	(7.48%)	-	-	-
Driehaud Capital	(3.63%)	-	-	-
Harding Loevner	(4.19%)	-	-	-
Pzena Inv	(5.93%)	-	-	-
Custom MSCI EM STANDARD INDEX (9)	(7.00%)	(13.01%)	0.89%	0.70%
Emerging Markets Small Cap	(4.96%)	(3.57%)	8.51%	-
Acadian EM SC	(6.20%)	(5.30%)	16.19%	-
Wasatch EM SC	(3.25%)	(1.17%)	5.24%	-
Custom MSCI Emer Mkt SC (10)	(7.67%)	(7.85%)	5.26%	-
Total Frontier	(0.35%)	-	-	-
Acadian Frontier	1.46%	-	-	-
City of London EM	(1.24%)	-	-	-
Custom MSCI Frontier Mkt Capped Net	(2.95%)	-	-	-
Global Equity (12)	0.28%	2.67%	13.34%	11.03%
Global Equity Benchmark (13)	0.22%	2.34%	12.84%	10.37%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Domestic Investment Grade Fixed Income	\$6,624,561,248	78.06%	\$6,533,364,533	77.98%
Total Aggregate	\$3,066,142,369	36.13%	\$2,672,407,631	31.90%
Blackrock Passive (Core)	889,417,330	10.48%	508,664,708	6.07%
PIMCO (Core)	793,110,589	9.35%	788,245,144	9.41%
Loomis Sayles Core Corporate	1,127,496,449	13.29%	1,120,761,762	13.38%
Access Capital/Merrill Lynch ETI	103,062,742	1.21%	102,668,105	1.23%
Community Capital Management	27,764,813	0.33%	27,594,945	0.33%
AFL-CIO Housing Investor Trust	125,290,446	1.48%	124,472,968	1.49%
Blackrock STRIPS	\$3,557,924,765	41.92%	\$3,860,953,727	46.09%
TIPS & ILBs Fixed Income	\$1,862,042,136	21.94%	\$1,844,369,220	22.02%
Blackrock TIPS	595,518,930	7.02%	594,741,796	7.10%
Blackrock Global ILBs	1,266,523,205	14.92%	1,249,627,424	14.92%
Core Fixed Cash	493,363	0.01%	2,423	0.00%
Core FI Closed Portfolios	751	0.00%	752	0.00%
Core Fixed Income	\$8,486,603,384	100.0%	\$8,377,733,753	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Domestic Investment Grade Fixed Income	3.37%	8.60%	4.51%	5.24%
Domestic Invest Grade Fixed (15)	3.40%	8.11%	3.94%	4.69%
Total Aggregate (14)	0.62%	3.50%	2.25%	3.77%
Blackrock Passive (Core)	0.65%	2.70%	1.57%	3.32%
PIMCO (Core)	0.62%	3.35%	2.33%	3.69%
Loomis Sayles Core Corporate	0.61%	3.85%	3.19%	4.73%
Community Capital Management	0.65%	2.91%	2.15%	3.25%
AFL-CIO Housing Investor Trust	0.67%	3.48%	1.89%	3.49%
Access Capital/Merrill Lynch ETI	0.44%	4.00%	2.44%	3.21%
Barclays Aggregate Index	0.70%	2.82%	1.60%	3.27%
Blackrock STRIPS	5.86%	13.68%	-	-
Barclays US Strip 20+ Idx	5.85%	13.72%	0.73%	10.87%
TIPS & ILBs Fixed Income	0.94%	2.15%	1.08%	4.44%
33% BC Tips/67% BC ILB Hedged (17)	0.98%	2.29%	0.75%	4.13%
Blackrock TIPS	0.13%	(1.65%)	(1.32%)	3.32%
Barclays US TIPS Index	0.21%	(1.56%)	(1.31%)	3.30%
Blackrock Global ILBs	1.32%	4.04%	2.28%	4.90%
BC ILB US Hedged (16)	1.36%	4.22%	1.77%	4.53%
Core Fixed Income	2.83%	7.26%	3.77%	5.09%
Core Fixed-Income Bench (18)	2.86%	6.91%	3.25%	4.60%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Total High Yield	\$945,038,628	18.81%	\$948,502,803	18.77%
Pyramis (High Yield)	318,158,027	6.33%	317,432,969	6.28%
Loomis Sayles High Yield	325,034,179	6.47%	327,944,082	6.49%
Shenkman	301,739,172	6.01%	303,062,767	6.00%
FI High Yield Debt Cash	107,250	0.00%	62,985	0.00%
Total Bank Loans	\$938,622,962	18.68%	\$936,373,330	18.53%
Eaton Vance Bank Loans	471,038,490	9.38%	470,542,790	9.31%
ING Bank Loans	467,584,472	9.31%	465,830,540	9.22%
Total Emerging Debt	\$798,408,915	15.89%	\$797,338,508	15.78%
Ashmore Emerging Markets Debt	490,812,720	9.77%	489,951,301	9.70%
PIMCO Emerging	307,596,196	6.12%	307,387,207	6.08%
Total EM Debt - Local	\$994,675,540	19.80%	\$1,020,656,624	20.20%
Investec	276,912,897	5.51%	283,814,173	5.62%
Pictet	444,605,326	8.85%	455,284,572	9.01%
Stone Harbor	273,157,318	5.44%	281,557,879	5.57%
Distressed Debt Portfolio	1,357,179,472	27.01%	1,350,751,623	26.73%
Distressed Debt Cash	-9,590,212	(0.19%)	-428,389	(0.01%)
Value Added Fixed Income	\$5,024,335,305	100.0%	\$5,053,194,500	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Total High Yield	(0.36%)	1.54%	6.70%	8.37%
Pyramis (High Yield)	0.26%	0.79%	6.74%	8.84%
Loomis Sayles High Yield	(0.85%)	1.53%	7.82%	9.13%
Shenkman	(0.50%)	2.30%	5.53%	7.09%
ML Master II HY Benchmark (19)	(0.61%)	0.17%	5.91%	7.52%
Total Bank Loans	0.28%	2.86%	4.86%	5.59%
Eaton Vance Bank Loans	0.15%	2.17%	4.10%	5.06%
ING Bank Loans	0.41%	3.56%	5.63%	6.15%
S&P/LSTA Leveraged Loan	(0.01%)	1.85%	4.48%	5.13%
Total Emerging Debt	0.18%	(2.90%)	2.13%	5.44%
Ashmore Emerging Markets Debt	0.25%	(3.31%)	2.29%	5.48%
PIMCO Emerging	0.10%	(2.22%)	1.89%	5.38%
JPM EMBI Global	0.41%	(1.28%)	2.23%	5.75%
Total EM Debt - Local	(2.55%)	(16.56%)	(5.82%)	-
Investec	(2.38%)	(15.69%)	(4.71%)	-
Pictet	(2.35%)	(16.20%)	(5.88%)	-
Stone Harbor	(2.93%)	(17.89%)	(6.83%)	-
JPM GBI EM GI Diversified	(2.56%)	(16.68%)	(5.31%)	(0.65%)
Public Value-Add Fixed Income	(0.69%)	(4.72%)	1.47%	4.56%
Public VAFI BM (19)	(0.78%)	(4.92%)	1.34%	4.44%
Distressed Debt Portfolio	(0.23%)	3.61%	12.10%	11.45%
Altman Benchmark (21)	(3.88%)	(15.70%)	3.47%	3.75%
Value Added Fixed Income (22)	(0.56%)	(2.58%)	4.17%	6.42%
Value-Added Benchmark (23)	(1.61%)	(7.86%)	2.03%	4.09%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Total Special Equity	\$5,062,695,064	74.63%	\$5,134,525,173	74.03%
Special Equity	19,141,834	0.28%	20,109,378	0.29%
Special Equity 2000	26,277,508	0.39%	26,277,508	0.38%
Special Equity 2001	58,673,948	0.86%	58,974,950	0.85%
Special Equity 2002	5,405,428	0.08%	5,931,014	0.09%
Special Equity 2003	93,465,135	1.38%	93,532,161	1.35%
Special Equity 2004	77,776,536	1.15%	79,431,783	1.15%
Special Equity 2005	392,258,801	5.78%	462,543,919	6.67%
Special Equity 2006	632,790,165	9.33%	664,031,231	9.57%
Special Equity 2007	905,945,916	13.35%	916,867,633	13.22%
Special Equity 2008	907,351,211	13.38%	917,469,664	13.23%
Special Equity 2009	232,031,626	3.42%	240,603,028	3.47%
Special Equity 2010	499,892,715	7.37%	499,110,262	7.20%
Special Equity 2011	560,046,918	8.26%	555,382,871	8.01%
Special Equity 2012	242,097,333	3.57%	241,373,337	3.48%
Special Equity 2013	168,111,561	2.48%	160,563,600	2.32%
Special Equity 2014	175,323,376	2.58%	145,969,106	2.10%
Special Equity 2015	66,105,052	0.97%	46,353,727	0.67%
Total Venture Capital	\$1,561,967,367	23.02%	\$1,580,445,091	22.79%
Venture Capital	12,953,229	0.19%	14,025,229	0.20%
Venture Capital 2000	67,359,185	0.99%	68,031,856	0.98%
Venture Capital 2001	39,179,753	0.58%	39,196,486	0.57%
Venture Capital 2002	14,159,907	0.21%	14,159,907	0.20%
Venture Capital 2003	30,762,823	0.45%	31,565,111	0.46%
Venture Capital 2004	36,050,216	0.53%	36,050,216	0.52%
Venture Capital 2005	118,650,464	1.75%	120,089,920	1.73%
Venture Capital 2006	135,519,347	2.00%	137,004,347	1.98%
Venture Capital 2007	191,584,088	2.82%	193,133,428	2.78%
Venture Capital 2008	31,509,807	0.46%	31,509,807	0.45%
Venture Capital 2009	230,766,673	3.40%	248,305,506	3.58%
Venture Capital 2010	256,799,933	3.79%	266,451,442	3.84%
Venture Capital 2011	89,801,345	1.32%	87,853,219	1.27%
Venture Capital 2012	213,484,734	3.15%	206,057,612	2.97%
Venture Capital 2013	43,071,323	0.63%	41,821,323	0.60%
Venture Capital 2014	46,817,727	0.69%	43,817,868	0.63%
Venture Capital 2015	3,496,814	0.05%	1,371,814	0.02%
Private Equity Cash	159,226,547	2.35%	220,755,804	3.18%
Private Equity	\$6,783,888,985	100.0%	\$6,935,726,050	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Total Special Equity	(0.49%)	14.46%	18.43%	17.82%
Special Equity	(0.03%)	26.69%	18.51%	18.47%
Special Equity 2000	0.00%	39.92%	26.32%	19.05%
Special Equity 2001	(0.15%)	9.20%	20.35%	15.76%
Special Equity 2002	(0.55%)	2.52%	11.43%	23.89%
Special Equity 2003	(0.12%)	11.60%	10.85%	11.56%
Special Equity 2004	(0.23%)	15.82%	21.10%	21.48%
Special Equity 2005	(0.27%)	13.24%	16.86%	17.46%
Special Equity 2006	(0.25%)	12.17%	17.50%	18.24%
Special Equity 2007	(0.46%)	8.38%	16.38%	15.73%
Special Equity 2008	(0.26%)	18.37%	24.02%	21.47%
Special Equity 2009	(0.15%)	28.22%	25.82%	20.00%
Special Equity 2010	(0.43%)	13.85%	16.94%	-
Special Equity 2011	(0.74%)	27.77%	17.58%	-
Special Equity 2012	(0.71%)	6.86%	(14.09%)	-
Special Equity 2013	(1.72%)	1.95%	-	-
Special Equity 2014	(1.66%)	3.01%	-	-
Special Equity 2015	(2.57%)	-	-	-
Total Venture Capital	(0.49%)	21.95%	22.14%	21.46%
Venture Capital	0.00%	12.51%	11.65%	9.75%
Venture Capital 2000	(0.09%)	(4.63%)	8.67%	10.78%
Venture Capital 2001	(0.04%)	6.91%	9.89%	10.54%
Venture Capital 2002	0.00%	6.09%	5.57%	3.16%
Venture Capital 2003	0.44%	24.17%	34.09%	23.11%
Venture Capital 2004	0.00%	(12.10%)	21.30%	42.02%
Venture Capital 2005	(0.08%)	32.70%	21.54%	19.51%
Venture Capital 2006	0.00%	17.23%	16.61%	17.97%
Venture Capital 2007	(0.11%)	24.99%	22.43%	26.76%
Venture Capital 2008	0.00%	27.95%	29.36%	39.69%
Venture Capital 2009	(2.07%)	22.17%	23.74%	19.20%
Venture Capital 2010	(0.19%)	38.10%	36.65%	20.20%
Venture Capital 2011	(0.17%)	28.23%	23.65%	-
Venture Capital 2012	(0.68%)	28.55%	23.20%	-
Venture Capital 2013	0.00%	8.83%	-	-
Venture Capital 2014	(0.82%)	(1.85%)	-	-
Venture Capital 2015	0.00%	-	-	-
Private Equity	(0.48%)	15.74%	18.77%	18.13%
Private Equity Benchmark (24)	(0.48%)	15.74%	18.77%	18.13%
Private Equity Benchmark (26)	1.03%	11.20%	9.49%	8.63%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Private Real Estate	\$4,934,361,432	79.85%	\$4,949,370,442	81.23%
Private Core Real Estate	\$5,502,606,634	89.05%	\$5,525,301,196	90.68%
Invesco Core	1,116,785,044	18.07%	1,115,216,044	18.30%
LaSalle Core	1,480,810,775	23.96%	1,556,639,446	25.55%
AEW Core	993,977,967	16.09%	988,715,767	16.23%
JP Morgan I.M.	755,124,720	12.22%	754,953,656	12.39%
TA Associates	1,155,908,128	18.71%	1,109,776,283	18.21%
Core Real Estate Debt	-1,002,037,756	(16.22%)	-999,907,266	(16.41%)
Total Non-Core	\$433,792,554	7.02%	\$402,813,307	6.61%
Total ETI	\$14,004,696	0.23%	\$14,004,696	0.23%
Canyon-Johnson II	5,518,556	0.09%	5,518,556	0.09%
Intercontinental IV	1,035,695	0.02%	1,035,695	0.02%
New Boston Urban I	7,450,445	0.12%	7,450,445	0.12%
Non Core 2011	419,787,858	6.79%	409,971,817	6.73%
Total REITs	\$1,203,534,292	19.48%	\$1,161,869,814	19.07%
Global REITS	\$1,203,460,820	19.47%	\$1,630,928,038	26.77%
INVESCO Global REIT	273,751,138	4.43%	264,037,448	4.33%
CenterSquare Global REIT	780,094,186	12.62%	753,455,466	12.37%
EII (INVESCO TRAN)	149,615,497	2.42%	144,324,777	2.37%
RREEF/European Investors Tran	26,211	0.00%	27,313	0.00%
REIT Cash	47,261	0.00%	24,811	0.00%
Real Estate Leverage Cash	-11,020	(0.00%)	-94,266	(0.00%)
Core Real Estate Cash	41,633,931	0.67%	-18,003,720	(0.30%)
Total Real Estate	\$6,179,518,667	100.0%	\$6,093,142,272	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Total Private Real Estate (27)	0.35%	15.13%	13.97%	14.41%
Private Core Real Estate	0.35%	12.82%	12.02%	13.30%
Invesco Core	0.40%	12.60%	13.20%	14.60%
LaSalle Core	0.22%	13.19%	13.42%	14.80%
AEW Core	0.31%	18.57%	14.40%	-
JP Morgan I.M.	0.50%	10.06%	9.02%	12.90%
TA Associates	0.39%	10.23%	10.32%	11.58%
NCREIF Property 1Q Lag	0.00%	12.72%	11.47%	12.75%
Total Non-Core Real Estate	0.21%	14.05%	11.98%	7.14%
ETI (Partnerships)	0.00%	6.57%	2.24%	2.09%
Canyon-Johnson II	0.00%	5.06%	(2.45%)	(2.50%)
Intercontinental IV	0.00%	51.21%	19.37%	14.72%
New Boston Urban I	0.00%	0.12%	3.63%	4.38%
Non Core 2011	0.22%	14.34%	15.43%	-
NCREIF Property 1Q Lag	0.00%	12.72%	11.47%	12.75%
Total REITs	3.62%	4.27%	9.35%	11.10%
REIT Benchmark (28)	3.46%	3.41%	9.32%	11.19%
Global REITS	3.61%	4.24%	9.34%	-
INVESCO Global REIT	3.71%	4.24%	10.00%	-
CenterSquare Global REIT	3.56%	5.06%	9.81%	-
EII (INVESCO TRAN)	3.70%	-	-	-
EPRA/NAREIT Dev Net Total Idx	3.46%	3.41%	9.32%	-
Real Estate	0.96%	12.62%	12.69%	13.39%
Real Estate Benchmark (29)	0.69%	11.00%	11.18%	12.67%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Total Timber	\$1,652,278,577	72.83%	\$1,695,682,764	72.25%
Forest Investment Associates	1,109,272,886	48.90%	1,109,272,886	47.26%
The Campbell Group	543,000,271	23.94%	549,694,971	23.42%
Timber Cash	5,420	0.00%	36,714,907	1.56%
Natural Resources - Public	\$346,605,354	15.28%	\$381,794,197	16.27%
Jennison Natural Resources	166,914,038	7.36%	188,501,646	8.03%
T. Rowe Natural Resources	179,688,491	7.92%	193,291,066	8.24%
Public Natural Resources Cash	2,825	0.00%	1,485	0.00%
Natural Resources - Private	\$269,656,988	11.89%	\$269,573,361	11.49%
Private Natural Resources	268,916,736	11.85%	269,792,600	11.49%
Private Natural Resources Cash	740,252	0.03%	-219,239	(0.01%)
Total Timber/Natural Resources	\$2,268,540,919	100.0%	\$2,347,050,322	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Total Timber	(0.46%)	9.37%	9.25%	6.42%
Forest Investment Associates	0.00%	8.92%	9.38%	6.46%
The Campbell Group	(1.38%)	10.38%	8.68%	-
NCREIF Timber Index 1 Qtr Lag (30)	0.00%	10.64%	9.80%	6.20%
Natural Resources Public	(9.16%)	(31.70%)	(2.48%)	(0.62%)
Jennison Natural Resources	(11.39%)	(38.18%)	(6.04%)	(3.44%)
T. Rowe Natural Resources	(6.98%)	(24.33%)	1.39%	2.21%
Lipper Gbl Nat Res Idx	(8.67%)	(29.27%)	(2.74%)	(1.69%)
Total Natural Resources Private	(0.04%)	(8.85%)	(4.10%)	4.95%
Private Natural Resources	(0.04%)	(8.98%)	(4.22%)	4.81%
Natural Resource Private Bench (31)	(0.04%)	(8.85%)	(4.10%)	4.95%
Timber/Natural Resources	(1.85%)	(2.13%)	5.29%	4.82%
Timber/Natural Benchmark (32)	(1.42%)	(0.66%)	6.63%	5.20%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Portfolio Completion Strategy	98,113,739	100.00%	94,882,180	100.00%
Total Portfolio Completion Strategy	\$98,113,739	100.0%	\$94,882,180	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Portfolio Completion Strategy	3.43%	-	-	-
Total Portfolio Completion Strategy	3.43%	-	-	-
Total Portfolio Completion BM (36)	0.26%	-	-	-

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Arden HFOF (Liquidating)	47,906,085	0.92%	52,531,717	0.94%
Ivy (Liquidating)	4,684,780	0.09%	4,692,340	0.08%
PAAMCO	997,221,235	19.19%	1,210,769,665	21.72%
Direct Hedge Funds	4,112,852,167	79.14%	4,056,051,431	72.75%
Hedge Fund Cash	34,014,219	0.65%	251,107,571	4.50%
Hedge Funds Composite	\$5,196,678,486	100.0%	\$5,575,152,724	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Arden HFOF (Liquidating)	(1.19%)	0.54%	-	-
Ivy Liquidating	(0.16%)	11.61%	7.76%	2.99%
PAAMCO	(0.92%)	1.49%	9.05%	6.17%
HFRI Composite Index (33)	0.11%	4.43%	6.03%	4.03%
Direct Hedge Funds	0.83%	5.70%	8.70%	-
HFRI Composite Index (34)	0.11%	4.43%	6.03%	4.03%
Hedge Funds	0.46%	4.69%	8.69%	6.35%
Total Hedge Funds Benchmark (35)	0.11%	4.43%	6.03%	4.03%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Portable Alpha	\$27,906,544	99.91%	\$28,204,699	87.98%
Austin Capital Management	1,576,464	5.64%	1,596,713	4.98%
Crestline Advisors	11,144,460	39.90%	11,223,216	35.01%
Strategic Investment	15,185,620	54.37%	15,384,770	47.99%
Portable Alpha Cash	24,757	0.09%	3,852,069	12.02%
Total Portable Alpha Wind Down	\$27,931,301	100.0%	\$32,056,768	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Portable Alpha	(0.98%)	(5.15%)	(2.87%)	(2.09%)
Austin Capital Management	0.15%	2.72%	(12.02%)	(10.99%)
Crestline Advisors	(0.70%)	(6.99%)	(2.93%)	(0.41%)
Strategic Investment	(1.29%)	(4.73%)	(0.44%)	(1.89%)
Total Portable Alpha	(0.98%)	(5.04%)	(2.84%)	(2.15%)
Portable Alpha Benchmark (37)	0.11%	4.43%	6.03%	4.03%

All returns reported gross-of-fee.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2015, with the distribution as of June 30, 2015.

Asset Distribution Across Investment Managers

	July 31, 2015		June 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Clifton Overlay	178,599,422	16.25%	168,947,006	29.77%
Overlay Cash	920,148,401	83.75%	398,479,569	70.23%
Total Overlay	\$1,098,747,823	100.0%	\$567,426,575	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2015. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2015

	Last Month	Last 12 Months	Last 36 Months	Last 60 Months
Clifton Overlay	0.87%	3.87%	-	-
Total Overlay	0.48%	3.48%	-	-
Total Overlay Benchmark (36)	0.48%	3.48%	-	-

All returns reported gross-of-fee.

Interim Benchmark

(1) Interim benchmark is calculated by applying the investment performance of the asset class benchmarks to the Fund's asset allocation targets. The PE component of this uses the S&P 500 + 5% through 6/30/2000; currently Actual PE Performance (formally labeled Interim Policy Benchmark)

Total Core Benchmark

(2) The Total Core benchmark is calculated by applying the investment performance of the asset class benchmarks to the Fund's asset allocation targets. The Private Equity benchmark used for the Total Core benchmark calculation is the 7-year annualized return of the Russell 3000 +3% (formally labeled Policy Benchmark)

Adjusted Policy Benchmark

(2) The Adjusted Policy Benchmark is calculated by subtracting the cost of all the Fund's illiquid investments for the applicable fiscal year (for example, Private Equity, Hedge Funds, Distressed Debt, Real Estate, Timber and Natural Resources) from the Policy Benchmark.

Domestic Equity

(3) Russell 2500 through 6/30/14; currently 70.5% Russell 2500/5.5% Russell 2500 Growth/6.5% Russell 2000 Growth/17.5% Russell 2000 Value

(4) Dow Jones Wilshire 5000 through 04/30/08; Russell 3000 through 06/30/2009; 78% Russell 3000/22% 3 Month Libor + 3% through 12/31/2009; Russell 3000 through 10/31/2011; 80% S&P 500/20% Russell 2500 through 6/30/2014; currently 78.9% S&P 500/14.88% Russell 2500/1.16% Russell 2500 Growth/1.37% Russell 2000 Growth/3.69% Russell 2000 Value

International

(5) MSCI EAFE Net Dividends through 9/30/2007; MSCI EAFE Net Dividends Provisional Standard Index through 5/31/2008; MSCI EAFE Net Dividends Standard Index through 12/31/2009; MSCI World ex-US IMI Net Dividends through 12/31/2010; currently Custom World ex-US IMI Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(6) MSCI EAFE Net Dividends through 9/30/2007; MSCI EAFE Net Dividends Provisional Standard Index through 5/31/2008; MSCI EAFE Net Dividends Standard Index through 12/31/2010; currently Custom MSCI EAFE Net Dividends Standard Index, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(7) MSCI EAFE Net Dividends through 9/30/2007; MSCI EAFE Net Dividends Provisional Standard Index through 5/31/2008; MSCI EAFE Net Dividends Standard Index through 12/31/2009; MSCI World ex-US IMI Net Dividends through 12/31/2010; Custom World ex-US IMI Net Dividends through 8/31/2014; currently 50% custom MSCI World Ex-US IMI Net Dividends, 50% Custom MSCI EAFE Standard Index Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities. (Current blend is maintained by MSCI)

Emerging Markets

(8) MSCI Emerging Markets IMI Net Dividends through 12/31/2010; currently Custom MSCI Emerging Markets IMI Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(9) MSCI EMF through 6/30/2004; MSCI Emerging Markets Net Dividends through 9/30/2007; MSCI Emerging Markets Net Dividends Provisional Standard Index through 5/31/2008; MSCI Emerging Markets Net Dividends Standard Index through 12/31/2010; currently Custom MSCI Emerging Markets Net Dividends Standard Index, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(10) MSCI Emerging Markets Small Cap Net Dividendss Index through 8/31/2014; currently Custom MSCI Emerging Market Small Cap Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities.

(11) MSCI EMF through 6/30/2004; MSCI Emerging Markets Net Dividends through 9/30/2007; MSCI Emerging Markets Net Dividends Provisional Standard Index through 5/31/2008; MSCI Emerging Markets Net Dividends Standard Index through 4/30/2010; MSCI Emerging Markets IMI Net Dividends through 12/31/2010; Custom MSCI Emerging Markets IMI Net Dividends through 8/31/2014; 50% Custom MSCI EM IMI Net Dividends, 43% Custom MSCI EM Standard Net Dividends, 7% Custom MSCI EM Small Cap Net Dividends through 1/31/2015; 25% Custom MSCI EM IMI Net Dividends, 67.37% Custom MSCI EM Standard Net Dividends, 7% Custom MSCI EM Small Cap Net Dividends, .63% Custom MSCI Frontier Markets Country Capped Net Dividends through 2/28/2015. currently weights are based on the beginning adjusted monthly market value of each index group, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities. (Current blend is maintained by MSCI)

Global Equity

(12) The Total Global Equity composite inception date coincides with the establishment of the MSCI All Country World Index on January 1, 2001.

(13) MSCI All Country World Net Index through 4/30/2010; MSCI All Country World IMI Net Dividends through 12/31/2010; Custom MSCI All Country World IMI Net Dividends, customized to exclude legislatively prohibited tobacco, Sudan and Iran securities through 10/31/2011; 35% S&P 500/8% Russell 2500/42% Custom MSCI World Ex-US IMI Net Dividends/15% Custom MSCI EM IMI Net Dividends through 4/30/2012; 35% S&P 500/9% Russell 2500/40% Custom MSCI World Ex-US IMI Net Dividends/16% Custom MSCI EM IMI Net Dividends through 6/30/2014; currently 44% Domestic Equity BM/40% International Equity BM/16% Emerging Markets BM

Core Fixed Income

(14) Effective 2/28/2015, the Total Aggregate performance was changed to include the complete performance histories of Economically Targeted Investment managers: Access Capital, Community Capital Management, and AFL-CIO Housing Investment. As a result, prior period Total Aggregate performance was revised from 4/30/2004-1/31/2015.

(15) 100% BC Aggregate through 2/28/2014; 34% BC Agg/66% BC STRIPS 20+ through 2/28/2015; currently Domestic Investment Grade Fixed Income benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the core fixed income portfolio.

(16) BC Aggregate through 6/01; 67% BC Aggregate / 20% BC US TIPS/13% Custom Commodities BM ; Custom Commodities BM through 06/30/2009; currently BC ILB US\$ Hedged

(17) 33% BC US TIPS/67% BC ILB US\$ Hedged

(16) 80% ML MTGS 30 YR / 20% ML US TREAS 1-10 YR through 12/31/08; currently BC Securitized Index

(18) 77% BC Aggregate / 8% BC US TIPS/15% BC ILB US\$ Hedged through 2/28/2014; currently weights are based on the beginning adjusted monthly market value of each index group.

Value-Added Fixed Income

(19) CSFB Thru 07/2002; ML Master II HY Thru 02/2007; currently ML Master II HY Constrained Index

(20) Public Value Added benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the public value added fixed income portfolio. These weightings will be automatically adjusted at the end of every quarter for usage in the upcoming quarter.

(21) Actual Performance through 2/07; ML Master II FI Constrained Index through 12/31/2009; currently Altman NYU Salomon Center Combined Defaulted Public Bond & Bank Loan Index

(22) The Total Value-Added Fixed Income composite inception date coincides with PRIM's initiative to separate High Yield from Core Fixed Income. Underlying manager market values and cash flows are unavailable prior to July 1, 2001.

(23) CSFB through 7/02 / 43% ML Master II HY Index/43% JPM EMBI Global/14% Actual Distressed Debt through 02/07/ through 06/08 60% ML Master II HY Constrained Index and 40% JPM EMBI Global/ 50% ML Master II HY Constrained Index/ 33% JPM EMBI Global/17% S&P LSTA Leveraged Index through 06/30/2009; 58% ML Master II HY Constrained Index/ 25% JPM EMBI Global/17% S&P LSTA Leveraged Index through 12/31/2009; 24% ML Master II HY Constrained Index/17% S&P LSTA Leveraged Index/20% JPM EMBI Global/39% Altman Index through 03/31/2010; 24.20% ML Master II HY Constrained Index/16.56% S&P LSTA Leveraged Index/19.43% JPM EMBI Global/39.81% Altman Index through 06/30/2010; 22.10% ML Master II HY Constrained Index/14.60% S&P LSTA Leveraged Loan Index/20.65% JPM EMBI Global/42.65% Altman Index through 09/30/2010; 22.46% ML Master II HY Constrained Index/12.92% S&P LSTA Leveraged Loan Index/21.56% JPM EMBI Global/43.06% Altman Index through 12/31/2010; 22.14% ML Master II HY Constrained Index/11.13% S&P LSTA Leveraged Loan Index/21.60% JPM EMBI Global/45.13% Altman Index through 3/31/2011; 23.15% ML Master II HY Constrained Index/9.45% S&P LSTA Leveraged Loan Index/22.74% JPM EMBI Global/44.66% Altman Index through 6/30/2011; 23.95% ML Master II HY Constrained Index/9.21% S&P LSTA Leveraged Loan Index/22.96% JPM EMBI Global/43.88% Altman Index through 9/30/2011; 21.58% ML Master II HY Constrained Index/11.08% S&P LSTA Leveraged Loan Index/22.24% JPM EMBI Global/45.10% Altman Index through 12/31/2011; 27.90% ML Master II HY Constrained Index/13.58% S&P LSTA Leveraged Loan Index/20.65% JPM EMBI Global/37.87% Altman Index through 3/31/2012; 28.24% ML Master II HY Constrained Index/13.30% S&P LSTA Leveraged Loan Index/20.71% JPM EMBI Global/37.75% Altman Index through 4/30/2012; 23.55% ML Master II HY Constrained Index/10.63% S&P LSTA Leveraged Loan Index/16.61% JPM EMBI Global/20.36% JPM GBI-EM Global Diversified/28.85% Altman Index through 6/30/2012; 18.21% ML Master II HY Constrained Index/11.24% S&P LSTA Leveraged Loan Index/17.63% JPM EMBI Global/20.80% JPM GBI-EM Global Diversified/32.12% Altman Index through 9/30/2012; 18.29% ML Master II HY Constrained Index/11.98% S&P LSTA Leveraged Loan Index/18% JPM EMBI Global/21.03% JPM GBI-EM Global Diversified/30.70% Altman Index through 12/31/2012; 19.40% ML Master II HY Constrained Index/11.90% S&P LSTA Leveraged Loan Index/18.28% JPM EMBI Global/21.32% JPM GBI-EM Global Diversified/29.10% Altman Index through 2/28/2013; Value Added benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the value added fixed income portfolio. These weightings will be automatically adjusted at the end of every quarter for usage in the upcoming quarter.

Private Equity

- (24) Through 6/30/2000, S&P 500 + 5%; currently Actual Performance. This benchmark is used in the Interim Policy Benchmark
(25) The 7 Year Annualized performance is used in the Policy Return and Policy Benchmark.
(26) Wilshire 5000 + 3% through 4/30/2008; Currently 7 Year Annualized Russell 3000 + 3%

Real Estate - Private/Public

- (27) On 06/30/02 PRIM instituted portfolio leverage of up to 40%; increased to 50% leverage on 02/03/04. Portfolio leverage was paid down in September 2005 (\$450 million), October 2005 (\$200 million), and July 2007 (\$450 million). Composite includes Value Added Separate Account opened 4/30/2007 and closed 12/31/2010.
(28) FTSE NAREIT ALL EQUITY REITS through 3/31/2008; 63% FTSE NAREIT ALL EQUITY REITS/27% NAREIT Global REIT/10% NAREIT International REIT through 06/30/09; 50% FTSE NAREIT ALL EQUITY REITS/50% FTSE EPRA NAREIT Developed Ex US REIT through 4/30/2012; currently 100% FTSE EPRA NAREIT Developed Net Total Return
(29) NCREIF through 6/30/03; 67% NCREIF/33% FTSE NAREIT ALL EQUITY REITS through 12/31/06; NCREIF + Ratio of 2% FTSE NAREIT ALL EQUITY REITS to PRIT Fund through 03/31/08; 73% NCREIF Property One Qtr Lag/17% FTSE NAREIT ALL EQUITY REITS/7.25% NAREIT Global REIT/2.75% NAREIT Intl REIT through 06/30/09; 82% NCREIF Property One Qtr Lag/9% FTSE NAREIT ALL EQUITY REITS/9% FTSE EPRA NAREIT Developed Ex US REIT through 7/31/09; 80% NCREIF Property One Qtr Lag/10% FTSE NAREIT ALL EQUITY REITS/10% FTSE EPRA NAREIT Developed Ex US REIT through 4/30/2012; currently 80% NCREIF PROPERTY ONE QTR LAG/20% FTSE EPRA NAREIT Developed Net Total Return

Timber/Natural Resources

- (30) NCREIF Timber Index through 6/30/03; NCREIF Timber Index Ex-PRIM through 2/28/2010; currently NCREIF Timber Index
(31) Currently Private Natural Resources Actual Performance.
(32) NCREIF Timber Index through 6/30/03; NCREIF Timber Index Ex-PRIM through 06/30/08; 50% NCREIF Timber Index Ex-PRIM/ 42% Lipper Natural Resources Global Fund Index/ 8% Actual Natural Resources Private through 2/28/2010; 50% NCREIF Timber Index/ 42% Lipper Natural Resources Global Fund Index/ 8% Actual Natural Resources Private through 10/31/2011; 53% NCREIF Timber Index/ 39% Lipper Natural Resources Global Fund Index/ 8% Actual Natural Resources Private through 2/28/2014; currently the Timber/Natural Resources benchmark is calculated by applying the investment performance of the sub asset class benchmarks to the sub asset class weights within the Timber/Natural Resources portfolio. These weightings will be automatically adjusted at the end of every quarter for usage in the upcoming quarter.

Hedge Funds

- (29) ML 90 Day T-Bill + 4% through 12/31/2009; currently 60% HFRI Fund of Funds Conservative Index/40% HFRI Event Driven Distressed/Restructuring Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)
(33) ML 90 Day T-Bill + 4% through 12/31/2009; currently HFRI Fund of Funds Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)
(30) ML 90 Day T-Bill + 4% through 12/31/2009; 90% HFRI Fund of Funds Conservative Index/10% HFRI Emerging Markets Global Index through 12/31/2010; currently 100% HFRI Fund of Funds Composite Index (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)
(34) HFRI Fund of Funds Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)
(35) ML 90 Day T-Bill + 4% through 12/31/2009; currently HFRI Fund of Funds Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)

Portfolio Completion Strategies

- (36) Portfolio Completion Strategies Composite Index is calculated by applying the underlying benchmark return for each manager to the manager's weight within the Portfolio Completion Strategies Composite. These weights are based on the beginning adjusted monthly market value of each portfolio.

Portable Alpha Wind Down

- (37) S&P 500 Index through April 2008; Russell 3000 Index through July 2009; US 3 Month Libor + 3% through 12/31/2009; currently HFRI FOF Composite Index. (HFRI indices - Flash returns are used through 12/31/11. Current returns reflect most up to date performance and are subject to change)

Overlay

- (38) Actual performance

Total Fund

(39) ML 90 Day T-Bill through 6/30/03; ML 3-Month Libor through 03/31/08; currently ML 90 Day T-Bill

Policy Return

(40) The Policy Return is calculated by applying the investment performance of each asset class times its actual allocation. The Private Equity portion of the Policy Return is the 7-year annualized return of the Private Equity asset class monthized.

(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix E

Manager Bench Update: PRIM Progress Memorandum

*PRIM Investment Committee Meeting
Monday, September 21, 2015*

(This page was intentionally left blank.)

<p style="text-align: center;">PENSION RESERVES INVESTMENT MANAGEMENT BOARD Manager of Emerging Markets: Progress Investment Management Company – Core Fixed Income</p>

Background

On April 30, 2012, PRIM issued a Request for Proposals (RFP) for Manager of Emerging Managers Investment Management Services across multiple asset classes. On August 8, 2013, the PRIM Board approved the addition of Progress Investment Management Company (Progress) to PRIM's manager bench for their Core Fixed Income strategy. After considerable due diligence and analysis, PRIM staff and Callan Associates deemed Progress to be a strong organization with deep experience constructing Manager of Emerging Manager portfolios. Furthermore, Progress' Core Fixed Income strategy ranked favorably, posting strong results relative to both the Barclays Aggregate Index and peers. Progress was placed on PRIM's manager bench because, at that time, PRIM had formed a Fixed Income Working Group to evaluate the construction of its Core Fixed Income allocation and did not feel that funding Progress' Core Fixed Income Strategy was appropriate until the analysis was complete.

The recommendation from the Fixed Income Working Group was to replace the Core Fixed Income allocation to the Barclays Aggregate Index with an allocation to Long Duration Treasury STRIPS. As a result of this recommendation, Progress' Core Fixed Income strategy no longer fit within PRIM's asset allocation and Progress remained on the manager bench. We have recently altered the allocation to Long Duration Treasury STRIPS within our Core Fixed Income sleeve and now have a 5% target allocation to strategies benchmarked to the Barclays Aggregate Bond Index. Chuck LaPosta and Sarah Samuels of PRIM, along with Millie Viqueira and Nate Wong of Callan Associates, have reviewed Progress' current Manager of Emerging Managers Core Fixed Income capabilities and results, including an on-site visit to their San Francisco headquarters, in light of the 2013 approval and subsequent asset allocation shifts.

Firm Update

Progress is an independent, 100% employee-owned Minority and/or Women-owned Business Enterprise (MWBE) certified registered investment adviser and has been a pioneer Manager of Emerging Managers for 25 years. Progress has an experienced staff of 36 professionals who focus on all aspects of the asset management business for emerging managers. They have worked with over 150 emerging managers across a multitude of strategies. As of June 30, 2015, Progress has \$8.8 billion in assets under management (AUM), including nearly \$2.0 billion in fixed income mandates.

Progress uses a 40 factor model to evaluate new and existing managers. They seek to provide 80% of their alpha from manager selection. They use their database of over 3,000 products as well as their industry presence and professional network to source managers. They currently have 10 fixed income managers on their approved list and allocate portfolios across 5 or 6 managers to achieve diversity of investment strategy as well as exposure to various phases of business development within the Emerging Manager universe.

The Progress Core Fixed Income Composite has outperformed the benchmark on a gross of fee basis by nearly 1% over 3 and 5 year periods.

<u>Total Return</u>	<u>3yr</u>	<u>5yr</u>
Progress Core Fixed Income Composite	2.8%	4.3%
Barclays Aggregate Index	1.8%	3.4%
Alpha	1.0%	1.0%

Gross returns as of 6/30/15.

Source: Progress Investment Company

These results rank Progress within the 8th percentile of the over 200 products within the Core Fixed Income Universe according to PRIM's custom manager ranking model.

Removal from Manager Bench

Following continued strong performance while on PRIM's manager bench, as well as PRIM's recent asset allocation changes to include a 5% Core Fixed Income allocation, PRIM staff will remove Progress Core Fixed Income strategy from the manager bench and, pending successful contract negotiations, fund up to the \$100 million allocation amount approved at the August 8, 2013 Board meeting.



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix F

Manager Bench Update: Callan Progress Memorandum.

*PRIM Investment Committee Meeting
Monday, September 21, 2015*

(This page was intentionally left blank.)

Memorandum

To: Sarah Samuels and Chuck LaPosta, PRIM
From: Millie Viqueira, Senior Vice President and Nathan Wong, Vice President
Date: September 2, 2015
Subject: Progress Trust

Background

Following an extensive RFP process in 2012-2013, Progress was identified and selected as one of three emerging manager-of-managers to be placed on PRIM's manager bench. Though Progress had submitted an rfp response for both Core Fixed Income and International Equity, the evaluation process particularly highlighted the organization's fixed income capabilities. This coincided, however, with PRIM's adoption of a new asset allocation strategy which called for the elimination of "core" fixed income mandates and the adoption of Long Treasury Strips. Given the success of that strategy and the changing environment, core fixed income will regain greater prominence in the portfolio and has provided the opportunity to re-visit Progress's potential role in the portfolio.

An on-site was held in San Francisco in Progress's office on Monday, August 24, 2015. Meeting attendees included: Sarah Samuels and Chuck LaPosta of PRIM; Thurman White, Mona Williams, Alex Hsiao, Jose Balagot, Tony Lee, Tung Ming and Beverly Harrison of Progress; and, Nathan Wong and myself from Callan. Progress provided an update on the organization, staffing, philosophy, and process employed to identify emerging firms and construct portfolios.

Highlights from the meeting include:

- Assets have continued to grow. Mid-year 2013, assets stood at \$7.5 billion. Currently they manage \$8.8 billion. Approximately \$2.0 billion is across 7 dedicated fixed income mandates and 2 multi-asset portfolios.
- The firm continues to be independently owned though the ownership structure has been modified since mid-2013. In 2013, there were 6 Class A shareholders (must buy in) and 23 Class B shareholders. Today, there are 5 Class A shareholders and only 3 Class B shareholders. The rationale for making the change was to make ownership more meaningful to those who have it and to recognize those with a longstanding commitment to the firm.

- The senior leadership team has been stable. Alex Hsiao, CIO; Jose Balagot Deputy CIO, Tony Lee and Tung Ming focus on the firm's fixed income effort. Tony Lee is the newest addition to the firm. He joined in 2014.
- Current approved list capabilities include: LDI, Intermediate, Short duration, TIPS, Emerging Market Debt, High Yield, Global Credit, Structured Credit and Distressed Debt.
- Core Plus portfolios focus on high yield, emerging market debt and TIPS as the "plus" sectors.
- Will maintain a duration that is neutral to the benchmark.
- Goal is to have 80% of alpha coming from manager selection.
- Portfolios are typically constructed with 6 underlying managers: 2 core; 3 core plus and one high yield.
- There are currently ten approved managers on the fixed income platform.
- Overall, the portfolio positioning should be approximately 70% core plus and 30% core.
- Manager sourcing is conducted via their proprietary database, active prospecting and client/manager referrals. They did note, however, that new firm formation specific to fixed income has been quieter.
- Managers are ranked using a 40-factor model to measure the level of conviction on every potential new manager. Managers are re-evaluated on a quarterly basis.
- Individual manager allocations are limited to 25% of total mandate size to ensure broad diversification.
- Progress allocation limited to 30% of manager's total assets to limit business risk.

Summary

Progress has built out a solid infrastructure and process over the past 25 years focusing on emerging managers. While fixed income comprises less than 25% of their assets under management, they have managed fixed income back to the firm's inception. Led by Alex Hsiao, Chief Investment Officer, the investment team has developed a sound, repeatable process to identify a stable of emerging fixed income managers. The infrastructure at the firm enables them to perform in-depth evaluation of each potential manager's process, firm, and performance; required for any manager evaluation but especially necessary for smaller, emerging managers. The firm has exhibited a history of providing support to emerging managers to grow their businesses infrastructure, marketing plans and assets under management. Similarly, they closely monitor "approved" firms to identify issues and cut ties, as necessary, to those firms who display warning signs.

The portfolio proposed by Progress for PRIM is comprised of six managers: 30% to two core managers (evenly split); 65% to three core plus managers (evenly split); and, one high yield manager. Callan is familiar with five of the six managers, with Concerto, the high yield manager, being the exception.

Progress provided the rationale for their selection and its concerns about Concerto's low AUM and its evolution to becoming a long-only manager. As currently proposed, the portfolio is a broadly diversified, high quality, liquid portfolio that should exhibit core-like performance as measured against the Barclays U.S. Aggregate Bond Index. Progress has conveyed their willingness to change the allocation and/or customize guidelines to suit PRIM's goals and objectives. Callan would be supportive of PRIM making an allocation to Progress Trust to manage a portion of the core fixed income portfolio of the PRIT, subject to successful fee, contract and guideline negotiation.

(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix G

Managed Account Primer.

*PRIM Investment Committee Meeting
Monday, September 21, 2015*

(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

MassPRIM's Experience with Managed Accounts

Deborah Goldberg, Treasurer and Receiver General, Chair
Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer



Beyond Returns: An Investor Wish List

- ☐ Diversification
- ☐ Control
- ☐ Transparency
- ☐ Fees
- ☐ Customization
- ☐ Liquidity



Hedge Fund Managed Accounts

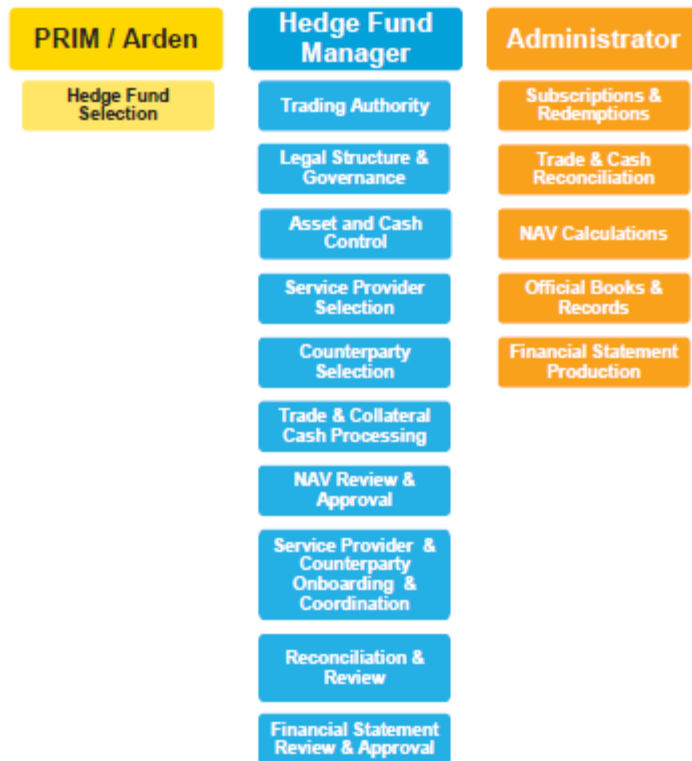
- ❑ Managed accounts are similar to the separate accounts utilized in Equity and Fixed Income strategies
- ❑ Principal benefits of manages accounts include:
 - Control
 - Transparency
 - Customization
 - Better fee terms



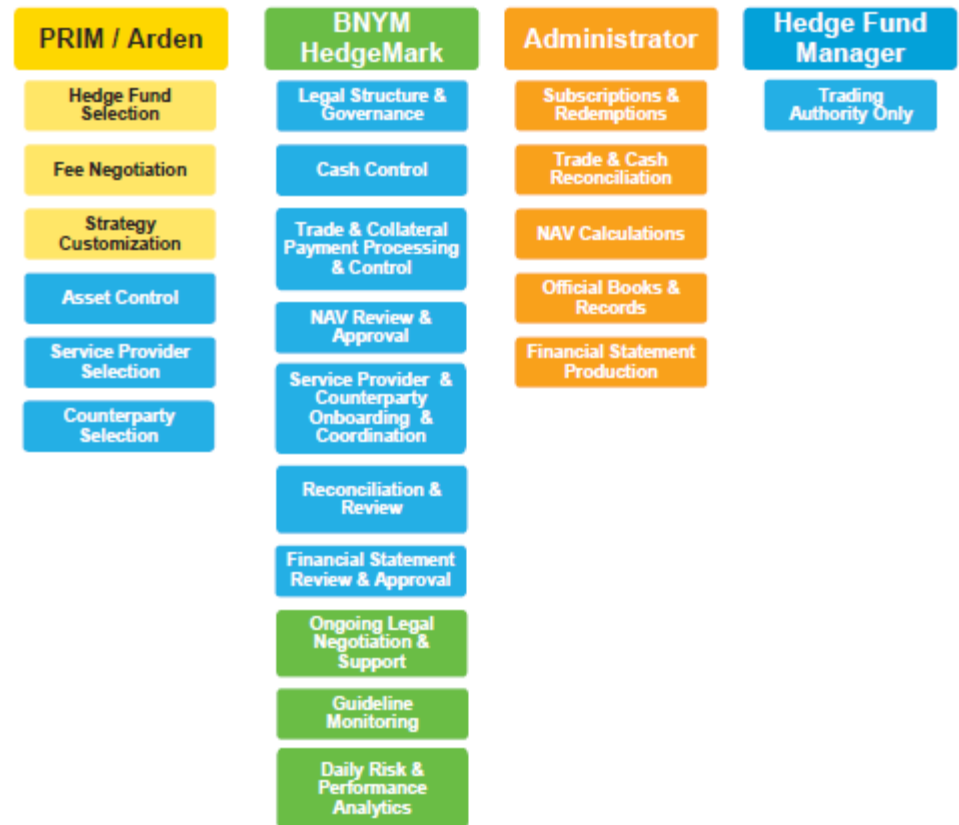
Understanding Dedicated Managed Accounts

Dedicated Managed Account's provide a structure to segregate the investment and non-investment functions of the hedge fund.

Traditional Hedge Fund Structure



Dedicated Managed Account Structure



Source: BNY Mellon



Understanding Dedicated Managed Accounts

PRIM Benefits	HedgeMark Dedicated Managed Account Solution	Traditional Hedge Fund Structure
Own and Control Assets	✓	✗
Impose Investments Guidelines	✓	✗
Customize Strategies	✓	✗
Negotiate Fees	✓	?
Daily Indicative Valuation	✓	?
Actionable Transparency	✓	✗
Independent Governance	✓	?
Independent Operational Oversight	✓	✗
Expense Transparency	✓	✗
Protection Against Fraud	✓	✗
Ability to Liquidate	✓	?
Manager Role Limited to Trading	✓	✗
Cash Efficiency	✓	✗

Source: BNY Mellon



The MassPRIM Experience

- ❑ Working closely with Arden (advisor) and HedgeMark (managed account service provider)
- ❑ Created or in process of creating multiple managed accounts, in a customized platform
- ❑ AUM in managed accounts across HF and PCS exceeds \$1 billion, and should reach \$1.5 billion by the end of 2015