

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

Agenda

- I. Approval of the Minutes.
- II. Executive Director/Chief Investment Officer Comments.
- III. Public Markets Portfolio Update.
- IV. Investment Research Update: Foreign Currency Hedging.
- V. Hedge Fund Portfolio Update.
- VI. 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 May 19, 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. Foreign Currency Hedging Research.

(This page was left intentionally blank.)

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

EXPANDED AGENDA

I. Approval of the Minutes.

The minutes of the PRIM Investment Committee meeting of May 19, 2015 are contained at **Appendix A**.

II. Executive Director/Chief Investment Officer Comments.

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 Portfolio Update.

Sarah N. Samuels, CFA, Deputy Chief Investment Officer—Director of Public Markets and Investment Research, will provide an update on the public markets portfolio. Written materials will be handed out at the meeting.

IV. Investment Research Update: Foreign Currency Hedging.

Sarah N. Samuels, CFA and Andre Clapp, Ph.D, CFA will present their research on the empirical findings and practical implications of implementing a developed market foreign currency hedging strategy. The presentation is contained at **Appendix E**.

V. Hedge Fund Portfolio Update.

Eric R. Nierenberg, Ph.D., Senior Investment Officer—Director of Hedge Funds and Low Volatility Strategies, will provide an update on the hedge fund portfolio.

VI. Private Equity Portfolio Update.

Michael R. Bailey, Senior Investment Officer – Director of Private Equity, will provide an update on the private equity portfolio.

a. Performance Summary and Cash Flows.

PRIM Board Private Equity Portfolio Performance as of June 30, 2015 ¹					
Committed	Contributed ²	Distributed	Market Value	Total Value	Net IRR ³
16,387,226,490	13,517,411,775	14,733,843,875	6,805,240,229	21,539,084,104	13.23%

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	283,673,072	395,791,674	112,118,602
30-Jun-15	327,220,461	615,355,722	288,135,261
30-Sep-15			
31-Dec-15			
TOTAL	\$610,893,533	\$1,011,147,396	\$400,253,862

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, May 19, 2015

*PRIM Investment Committee Meeting
Tuesday, July 21, 2015*

(This page was intentionally left blank.)



**PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD**

**Minutes of the PRIM Investment Committee Meeting
Tuesday, May 19, 2015**

Committee Member Attendees:

- Treasurer Deborah B. Goldberg, Chair
- Joseph C. Bonfiglio
- C. LaRoy Brantley
- Constance M. Everson, CFA
- 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 March 24, 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 Update

Tom Hanna, CPA, PRIM's Chief Operating Officer and Chief Financial Officer, left PRIM to take an extended break and then to explore other career opportunities. PRIM is conducting a search to find a replacement for Tom in his positions.

David Gurtz, CPA, CFA, has been appointed to Interim Chief Operating Officer and Chief Financial Officer. Dave is in his 8th year at PRIM and brings significant expertise in both financial accounting and reporting, and in investment and risk analysis.

Sarah Samuels has been appointed to Deputy Chief Investment Officer. Sarah Samuels and David Gurtz will join Chris Supple and Michael G. Trotsky on PRIM's senior executive management team.

Michael Bailey was recently nominated for the Institutional Investor's Investor Intelligence Award for Private Equity, and Sarah Samuels was nominated and selected as one of Chief Investment Officer Magazine's 2015 "40 Under 40" list. Michael's nomination recognizes the most outstanding and innovative public plan employees in North America, and Sarah's award recognizes up-and-coming

asset owner employees who have made meaningful investment contributions to their organizations. The “40 under 40” list includes asset owners from other public funds, corporate pension plans, endowments and foundations, health care funds, and insurance funds worldwide. These are the two latest examples of PRIM receiving national recognition for our accomplishments and for the strength and innovation of our staff and the investment program that they oversee.

Market Analysis and PRIT Fund Performance

Markets continue to be volatile in 2015 as economic data continues to be mixed. On the positive side, leading economic indicators and the job market strengthened, with initial jobless claims at historic lows of 264,000 and the unemployment rate falling to 5.4%. On the negative side, wage growth is still anemic, industrial production is weak, and consumer confidence indicators have plummeted for three straight months. Furthermore, Gross Domestic Product growth in Q1 was barely existent, coming in below estimates at 0.2%. The International Monetary Fund reduced its growth estimates for the U.S. while it raised growth estimates for Europe and Japan.

Despite the mixed data, and following a relatively weak March, equity markets were up in April and May with international markets outperforming the U.S. The S&P 500 Index was up 1.0% in April, while developed international markets were up 4.1% and emerging markets were up 7.7%. In May (through May 26), the S&P was up 1.1% while developed international markets were flat and emerging markets were down 1.9%. For the calendar year, the S&P 500 was up 3.0%, developed international markets were up 9.0%, and emerging markets were up 8.0%.

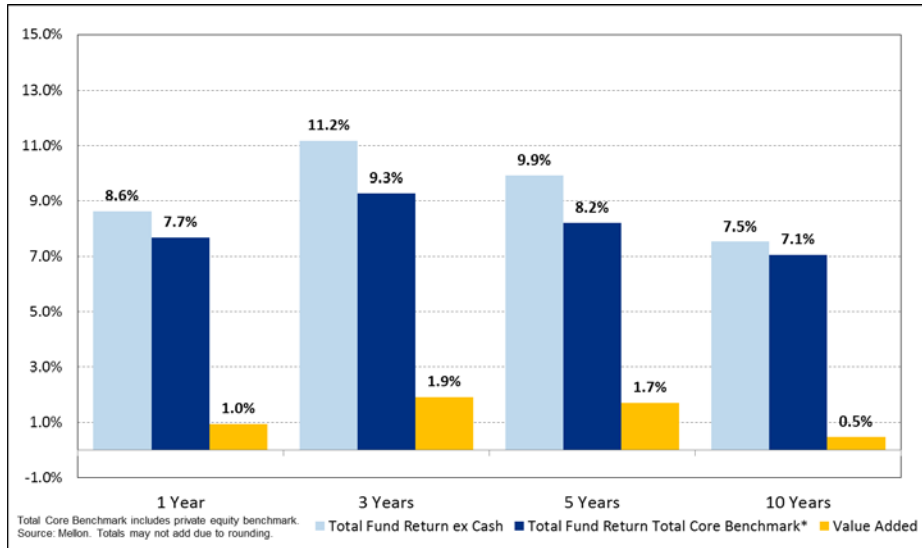
The bond market has been under pressure in recent months with yields rising in anticipation of a Federal Reserve rate hike later in the calendar year. Long duration bonds were down 5.6% in April and 4.1% in May, while shorter duration bonds, as measured by the Barclays Aggregate index, fell 0.4% in April, and 0.5% in May. For the calendar year, long bonds were down 4.5% while the shorter duration bonds were up 0.8%.

With this backdrop, the PRIT Fund is performing well. As of April 30, 2015, the PRIT Fund net asset value stood at \$62.3 billion. The PRIT Fund’s trailing 1, 3, 5, and 10 year returns remain strong both on an absolute and on a relative basis:

- For the one-year ended April 30, 2015, the PRIT Fund was up 8.6%, outperforming the total core benchmark of 7.7% by 95 basis points.
- The return equates to an investment gain of \$5.1 billion.
- The outperformance equates to \$560 million of value above the benchmark return.
- Five of the seven major asset classes outperformed their respective benchmarks: Private Equity (14%), Real Estate (+13.4%), Core Fixed Income (+12.6%), and Hedge Funds (+6.7%) were the strongest performing asset classes.
- Net outflows to pay benefits were \$1.5 billion for the one-year ended April 30, 2015.

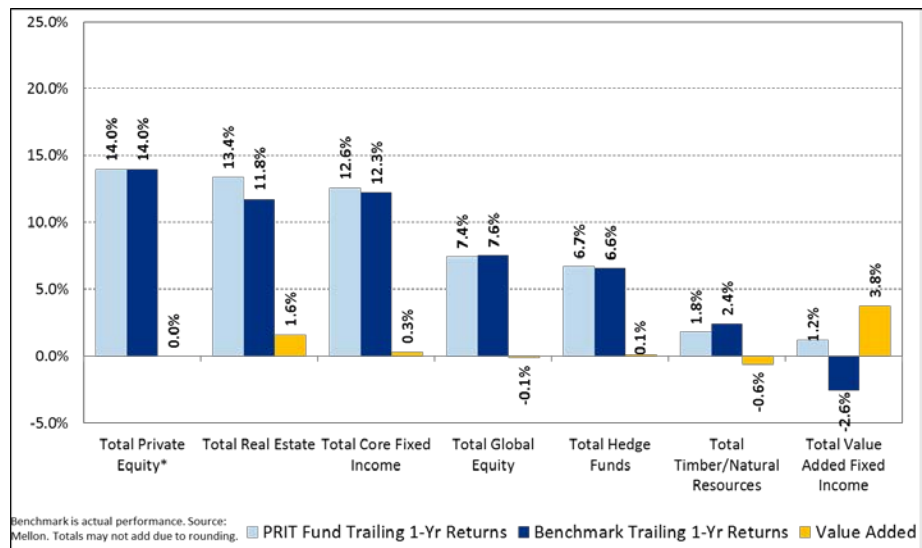
Total PRIT Fund Returns (Gross of Fees)

Annualized Returns as of April 30, 2015



PRIT Asset Class Performance (Gross of Fees)

One Year Ended April 30, 2015



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

Trailing 1-Year Performance April 30, 2015	Return	Benchmark Return	Over/(Under) Benchmark (bps)	\$Value (millions)	% of PRIT Fund
Total PRIT Fund	8.6%	7.7%	95	\$ 62,305	100%
Total Global Equity	7.4%	7.6%	(11)	\$ 26,670	42.8%
<i>Domestic</i>	<i>12.0%</i>	<i>12.4%</i>	<i>(43)</i>	<i>\$ 12,061</i>	<i>19.4%</i>
<i>International Developed</i>	<i>3.0%</i>	<i>1.8%</i>	<i>125</i>	<i>\$ 10,370</i>	<i>16.6%</i>
<i>Emerging Markets</i>	<i>6.0%</i>	<i>8.3%</i>	<i>(226)</i>	<i>\$ 4,239</i>	<i>6.8%</i>
Private Equity	14.0%	14.0%	-	\$ 6,727	10.8%
Real Estate	13.4%	11.8%	162	\$ 5,890	9.5%
Timberland/Natural Resources	1.8%	2.4%	(61)	\$ 2,382	3.8%
Hedge Funds	6.7%	6.6%	11	\$ 5,742	9.2%
Value Added Fixed Income	1.2%	(2.6%)	380	\$ 5,119	8.2%
Core Fixed Income	12.6%	12.3%	33	\$ 9,191	14.8%

Legislative Update

Mr. Trotsky then asked Chris Supple, Deputy Executive Director and General Counsel, to provide the Committee with an update on relevant aspects of the state budget process underway in the State House. Mr. Supple reported that proposed amendments had been filed to the Senate Budget Ways and Means proposal and were being debated that day, including amendments related to fossil fuel divestment and the composition of the PRIM Board.

Ruth Ellen Fitch arrived at 10:10 a.m.

Market Analysis

Constance M Everson, CFA discussed the recent sharp rise of sovereign bond yields.

In principle, the underlying economy was not strong enough to support a rise in bond yields, but there appeared to be a non-linear relationship of bond yields to the economy. The bond market rallied throughout 2014 despite a very strong 2Q and 3Q, and stopped rallying in 2015 despite a very weak 1Q. The driver could possibly be the higher or lower prospects for rate hikes, as if the bond market was signaling that rate hikes would be a mistake. Yields rose sharply in the wake of the (dovish) FOMC meeting in March, 2015, as if the bond market no longer needed to discount a policy mistake.

Discussion followed about recent economic data, such as retail sales, which had risen strongly in March after 3 months of declines, but without follow-through in April, when retail sales were flat. Even the strong numbers, in other words, needed to be put in a very moderate context. From a global perspective, the strong exports to the US being reported by Japan and the Eurozone, in local currencies, translated to a flat line when the same shipments were reported as US imports in US dollars. This difference helped explain why domestic growth was so slow in Japan, and production was not rising in the Eurozone as strongly as the currency advantage might have suggested. The strong US dollar, in other words, was not contributing to global growth rates as it had in earlier strong times.

There was further discussion about challenges to the effectiveness of ECB QE, risks to equity markets from slow growth, and the spillover impact of low energy prices on other industries.

III. Public Markets Portfolio Update and Strategy Review.

Sarah N. Samuels, CFA, Deputy Chief Investment Officer—Director of Public Markets and Investment Research, provided the Committee with an update on the Public Markets portfolio. For the year ended April 30, 2015, Global Equities rose 7.4%, underperforming the benchmark return by 10 basis points. Within Global Equities, absolute returns were driven by US Large Cap Equities (+13.2%), followed by US SMID Cap Equities (+7.5%), Emerging Market Equities (+6.0%), and Developed Non-US Equities (+3.0%). Two of the four Equity asset classes outperformed their benchmarks. Within Fixed Income, absolute returns were led by 20+ Year STRIPS (+24.5%), TIPS/Inflation-Linked Bonds (+6.2%), Core Fixed Income (Agg) (+5.0%), Bank Loans (+4.0%), High Yield (+3.7%), and EMD \$ (+3.1%), while EMD Local Currency fell (-9.1%). Five of the seven Fixed Income asset classes outperformed their benchmarks.

Ms. Samuels and Chuck LaPosta, CFA, Senior Investment Officer – Fixed Income, provided an update on the PRIT Fund's portfolio construction and, more specifically, the role of 20+ Year STRIPS in the PRIT Fund.

The PRIM Investment Committee unanimously agreed to make a recommendation to the PRIM Board that it grant to the Executive Director the authority to move the STRIPS Portfolio within the range of 2.5% - 7.5% of the PRIT Fund without requiring further approval from the Board or Committee, and further to authorize the Executive Director to take all actions necessary to effectuate this vote.

IV. Securities Lending Presentation.

David M. Gurtz, CPA, CFA, Interim Chief Financial Officer and Interim Chief Operating Officer, provided the Committee with an update on PRIM's securities lending program.

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.

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 March 31, 2015, the net IRR of the private equity portfolio was 13.21%, and the net cash flow was \$112.1 million.

b. Private Equity Commitment Summary.

Mr. Bailey informed the Committee that the total PRIT private equity commitments calendar year to date were \$856 million, with \$845 million remaining to be committed. Alternative fixed income commitments from January 2015 to date totaled \$375 million, with \$325 million remaining to be committed.

The meeting of the PRIM Investment Committee adjourned at 11:20 a.m.

List of documents and other exhibits used at the meeting:

- *PRIM Investment Committee Meeting Expanded Agenda. (May 19, 2015)*
- *Minutes of the PRIM Investment Committee Meeting of March 24, 2015.*
- *Callan PRIT Fund Performance Report Color Charts.*
- *BNY Mellon Gross of Fees Performance Report.*
- *Callan Investment Measurement Service Monthly Review.*
- *Handout – PRIT Fund Performance and Public Markets Detail. (April 30, 2015)*
- *Handout – BNY Mellon Gross of Fees Performance Report. (April 30, 2015)*
- *Handout – Securities Lending Q1 Summary.*



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix B

Callan PRIT Fund Performance Report Color Charts

*PRIM Investment Committee Meeting
Tuesday, July 21, 2015*

(This page was intentionally left blank.)



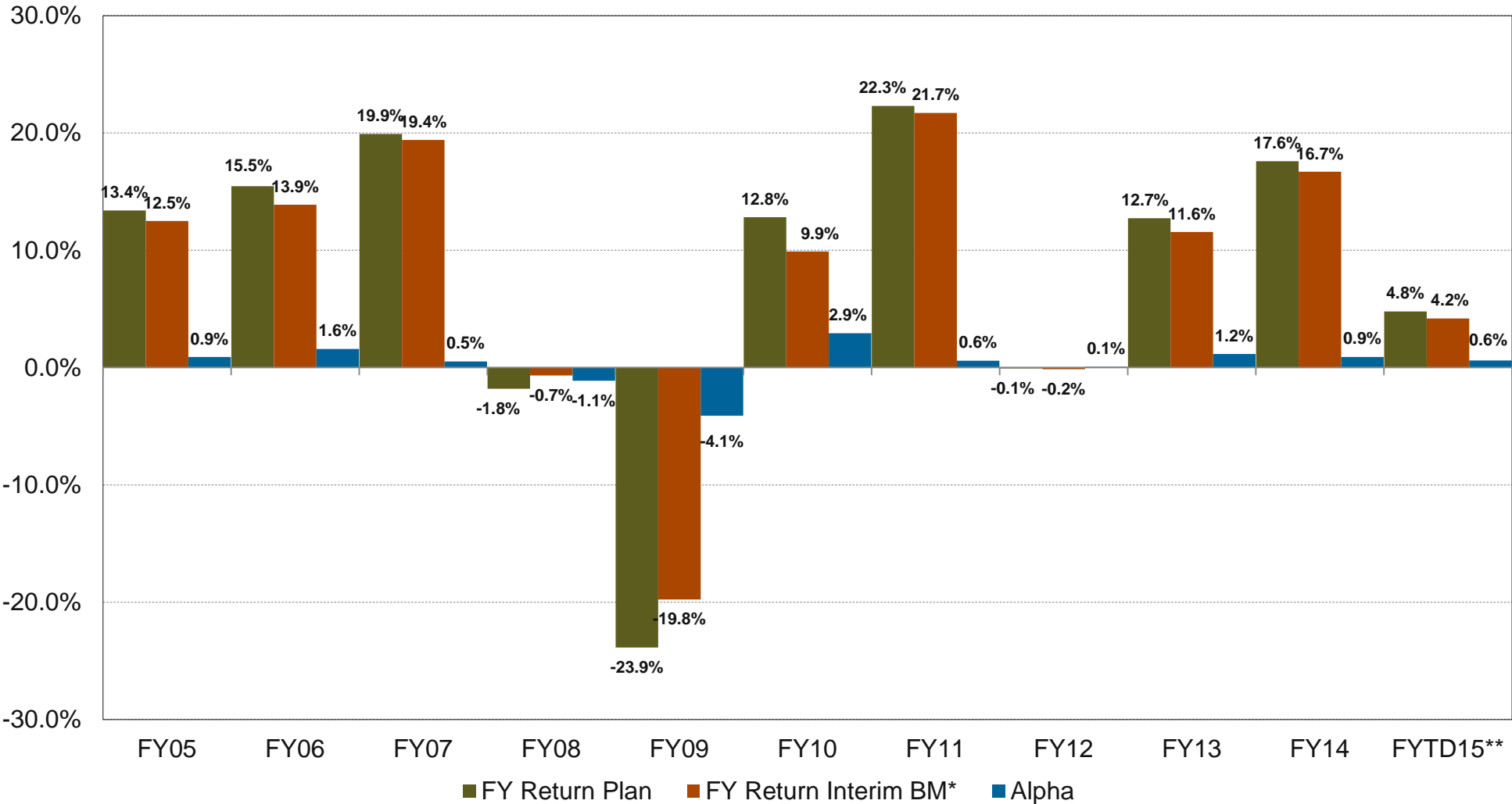
Commonwealth of Massachusetts Pension
Reserves Investment Management Board

PRIT Fund Performance Report

Gross of Fees for Period ending
May 31, 2015

Total PRIT Fund Fiscal Year Performance

Gross of Fees

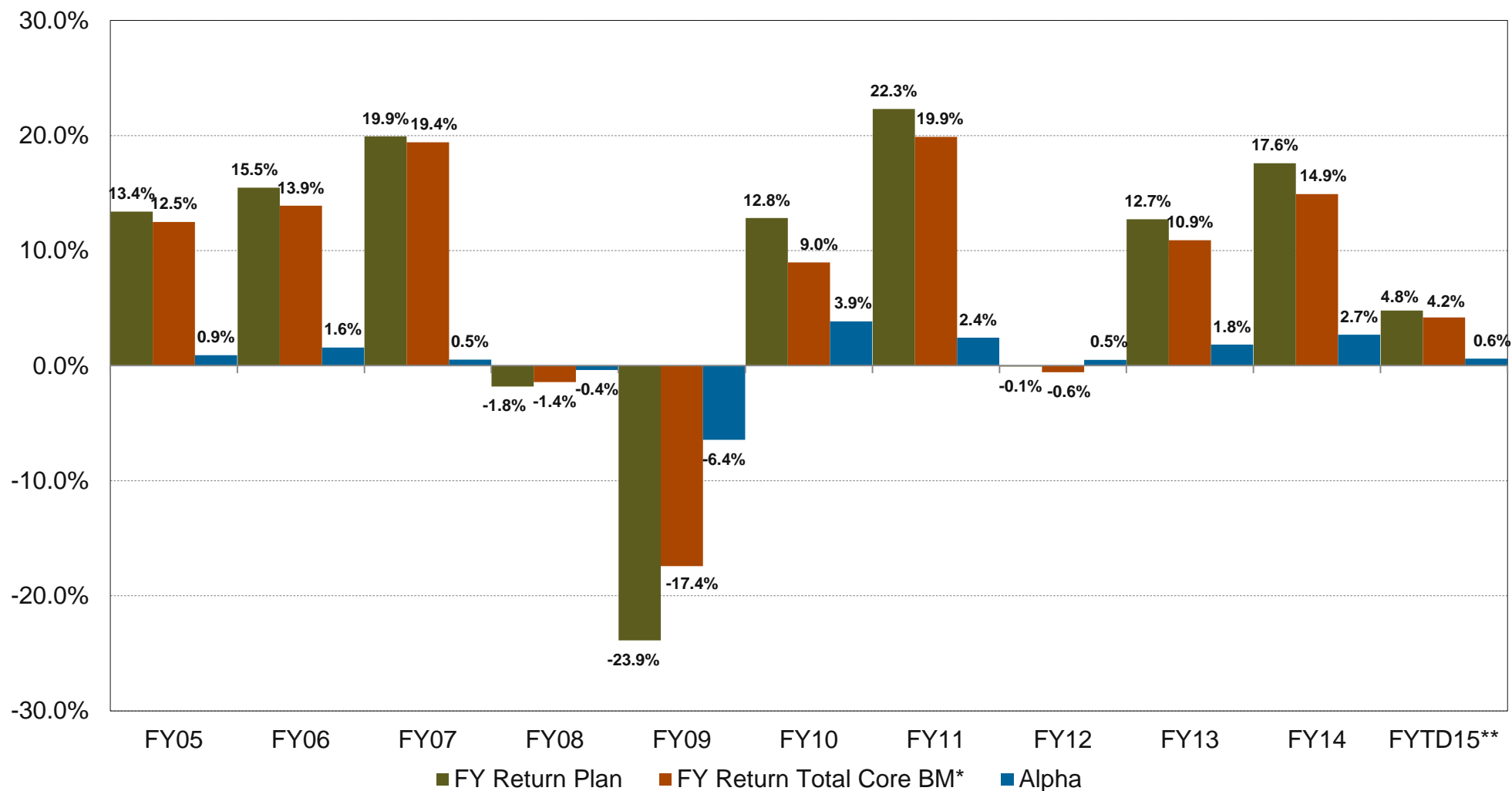


*Excludes Private Equity Benchmark

**As of May 31, 2015

Total PRIT Fund Fiscal Year Performance

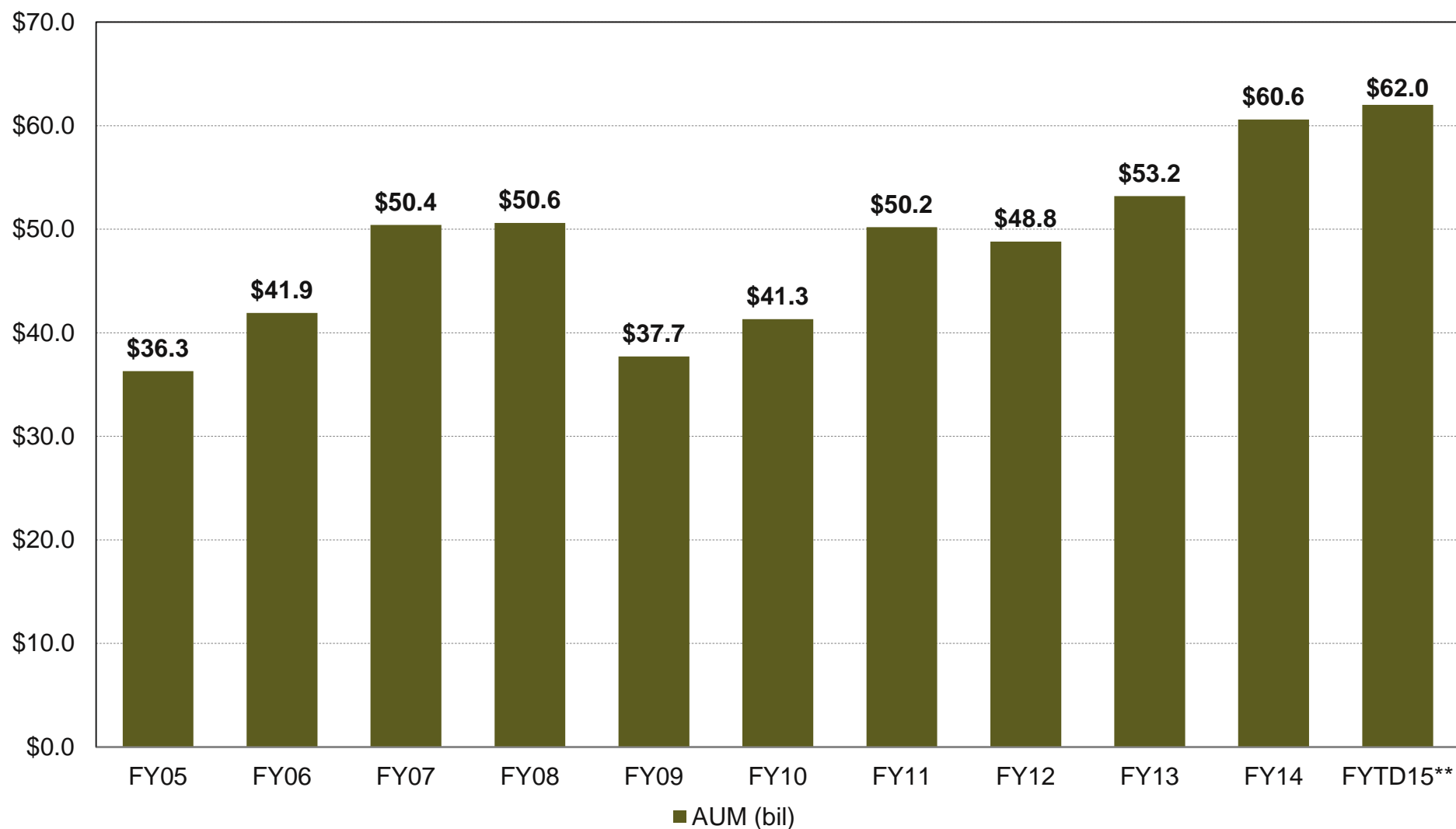
Gross of Fees



*Includes Private Equity Benchmark

**As of May 31, 2015

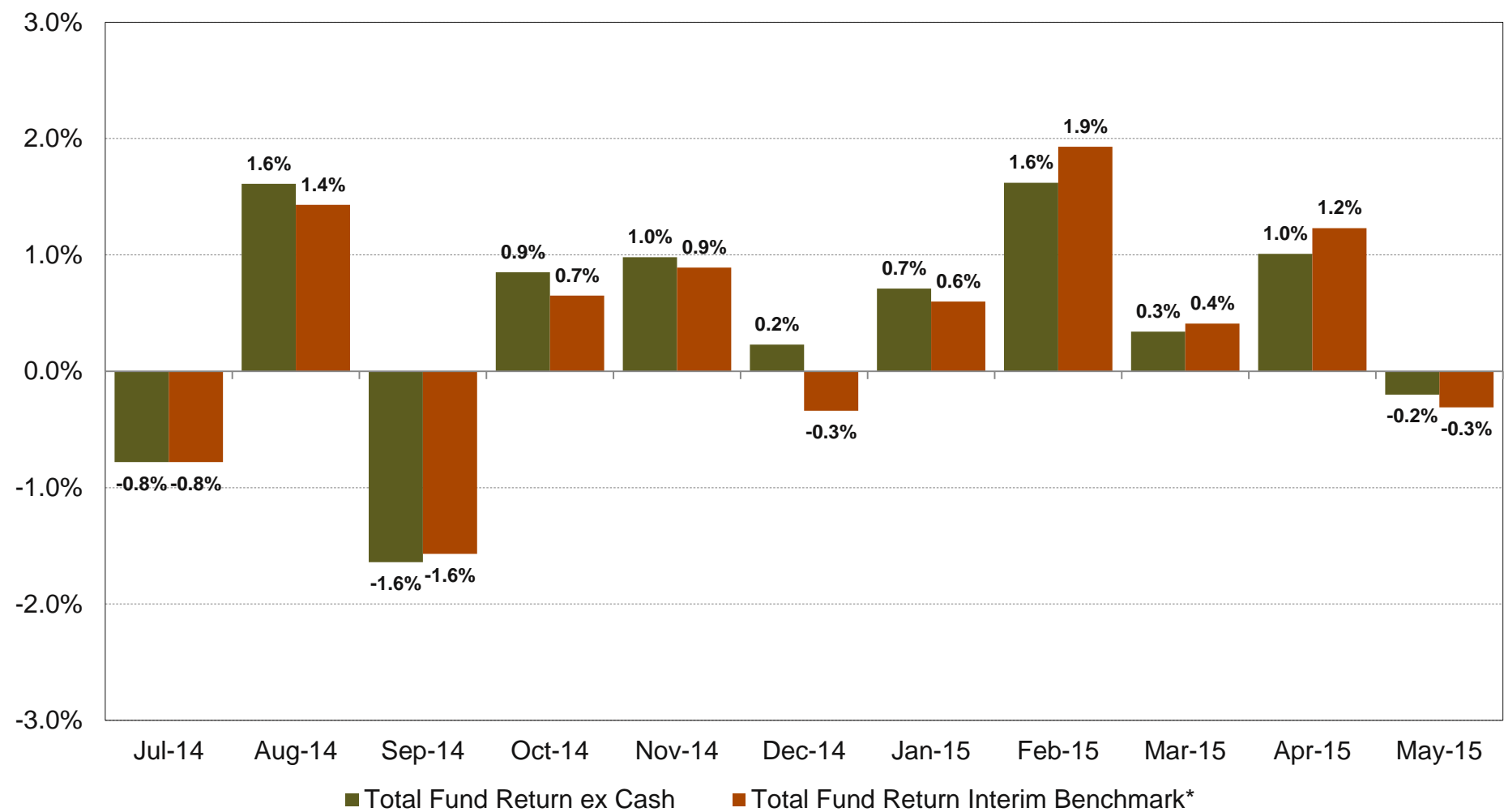
Total PRIT Fund Fiscal Year Market Value (\$Billions)



**As of May 31, 2015

Total PRIT Fund Monthly Performance FYTD15

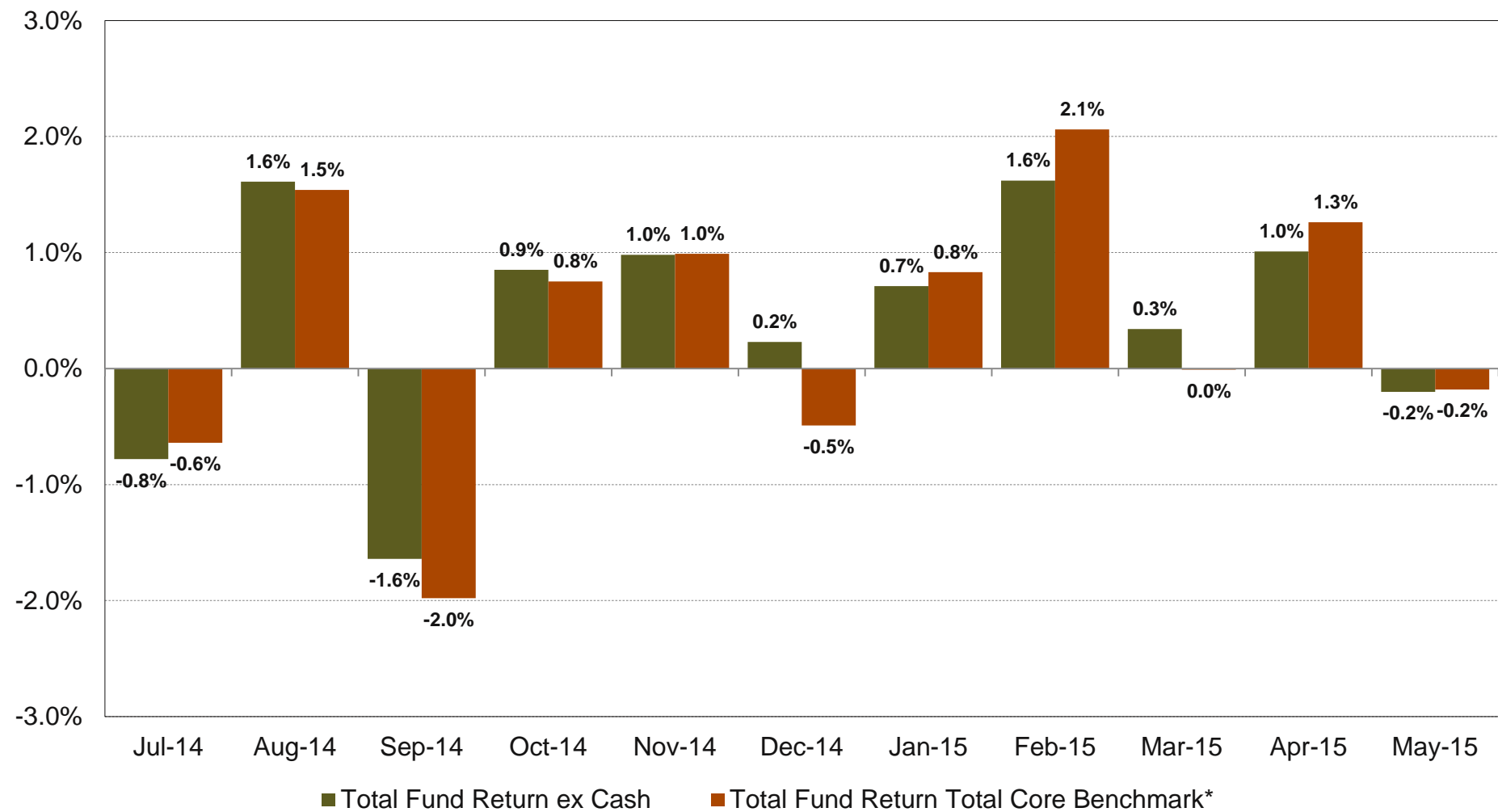
Gross of Fees



**Excludes Private Equity Benchmark*

Total PRIT Fund Monthly Performance FYTD15

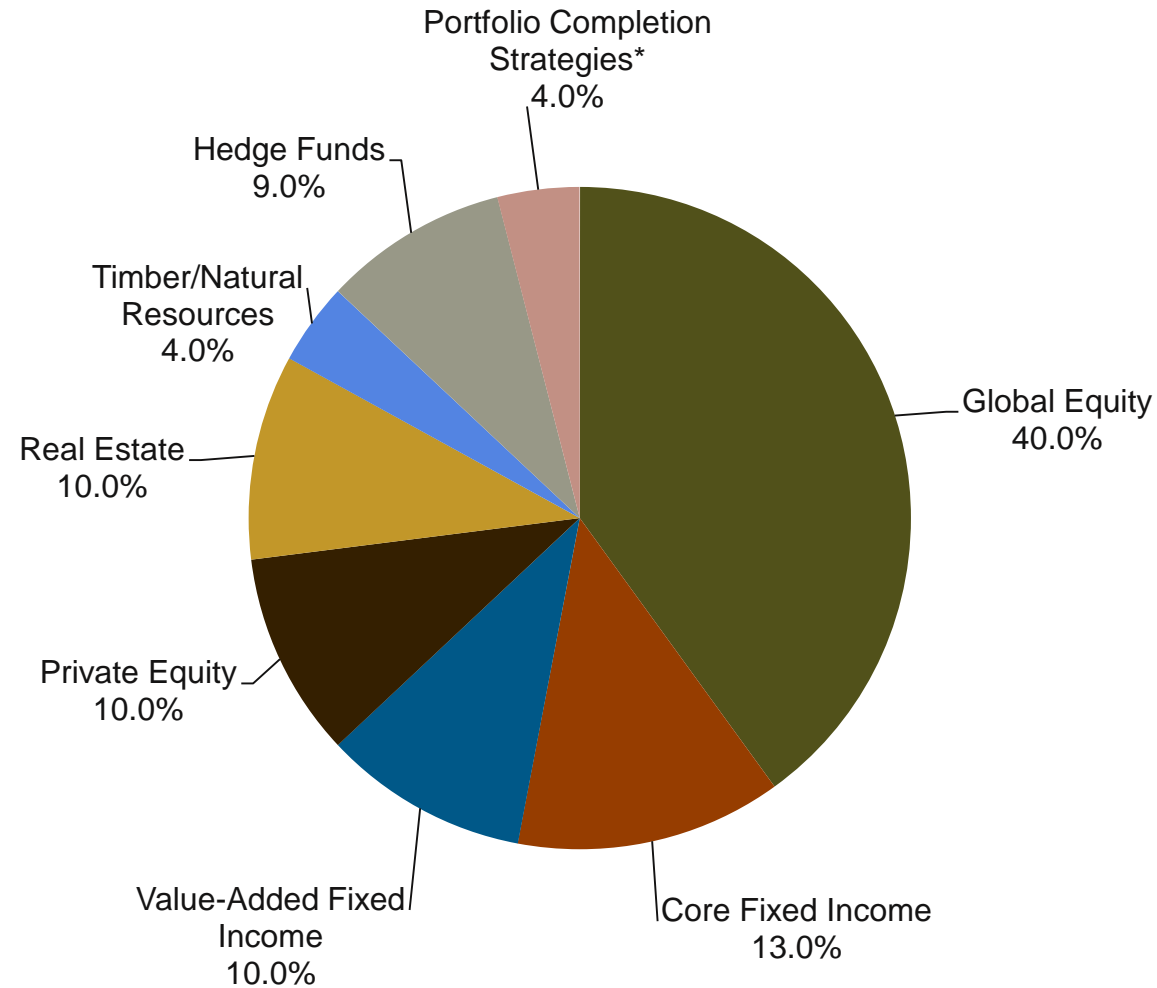
Gross of Fees



**Includes Private Equity Benchmark*

PRIT Fund Asset Allocation

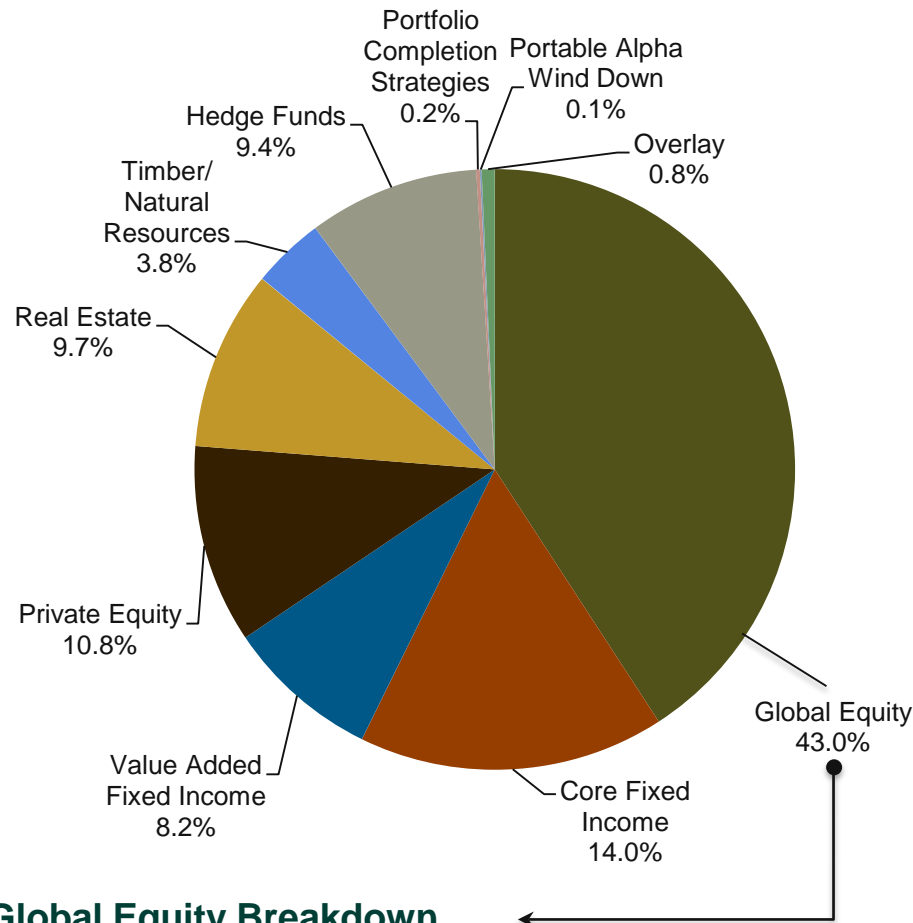
Long-Term Asset Allocation Targets



**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

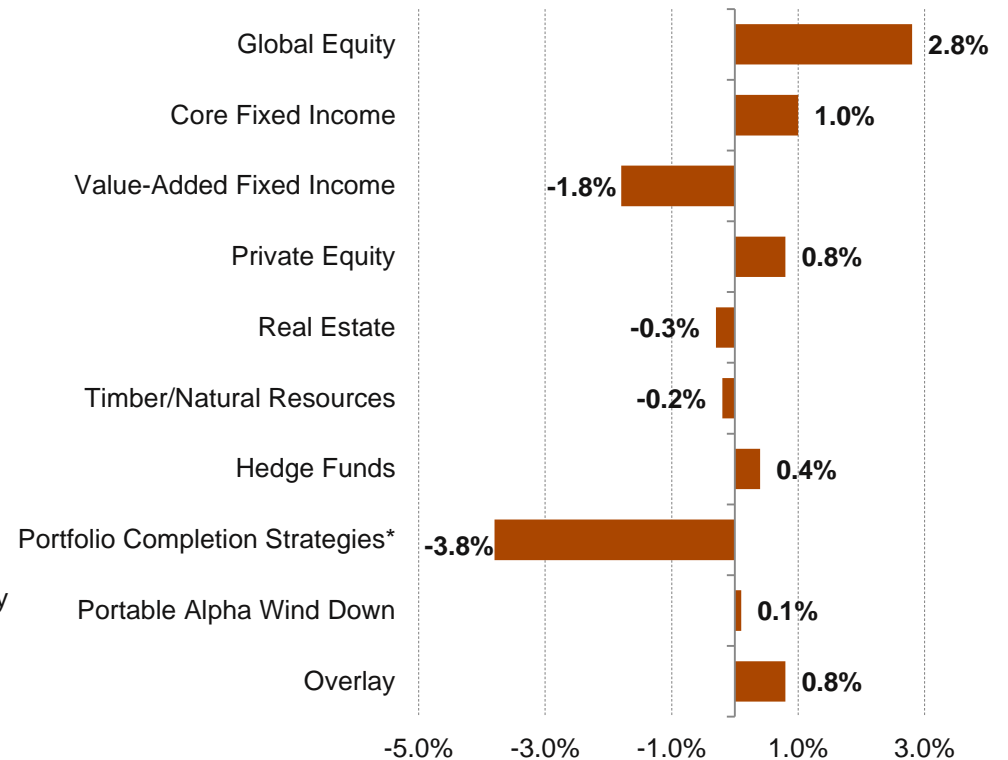
Actual Allocation as of May 31, 2015



Global Equity Breakdown

Domestic Equity	19.3%
International Equity	17.1%
Emerging Markets Equity	6.7%

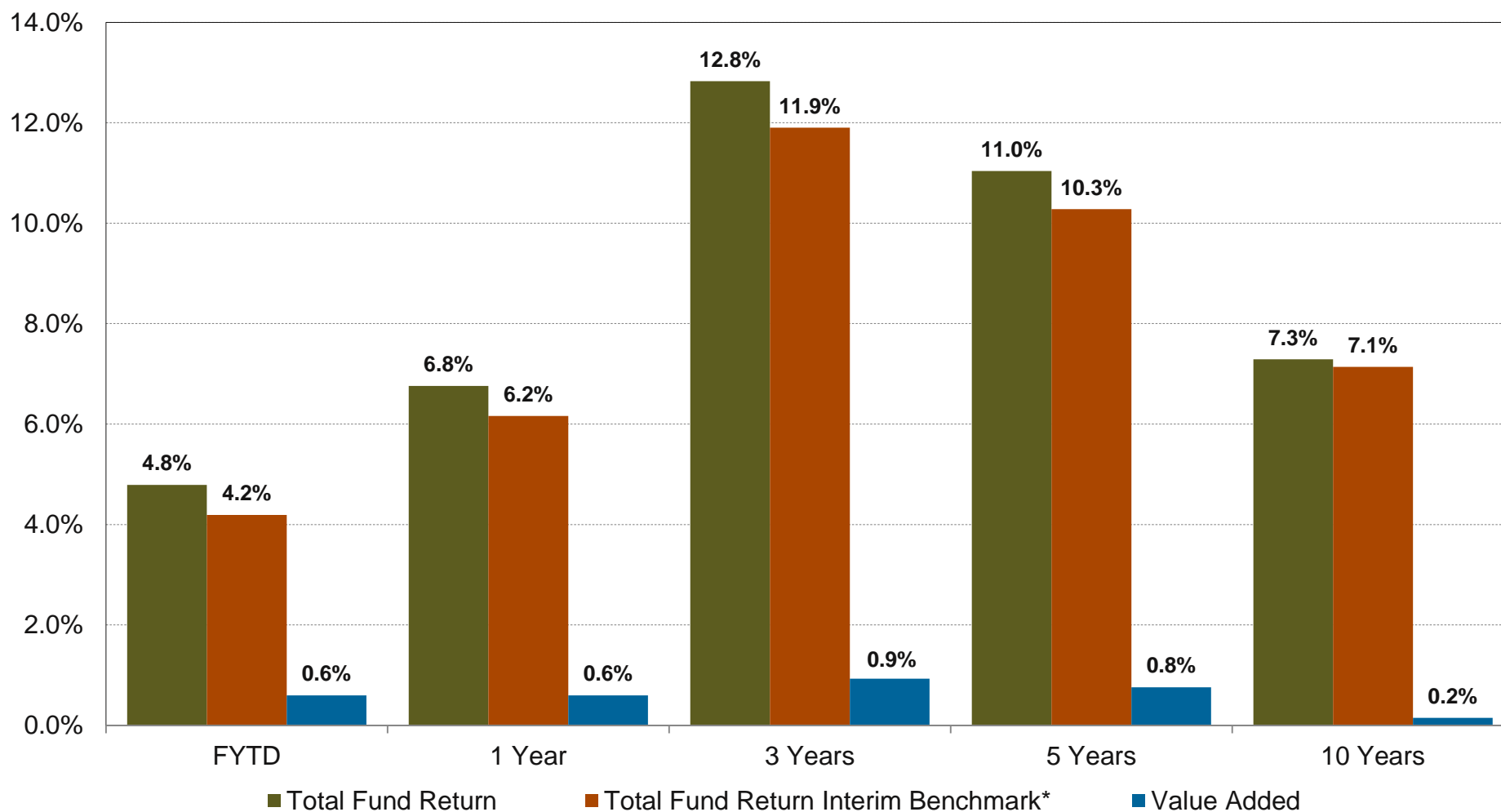
Actual Allocation vs. Target Allocation



*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 (\$62.0 Billion in Assets)

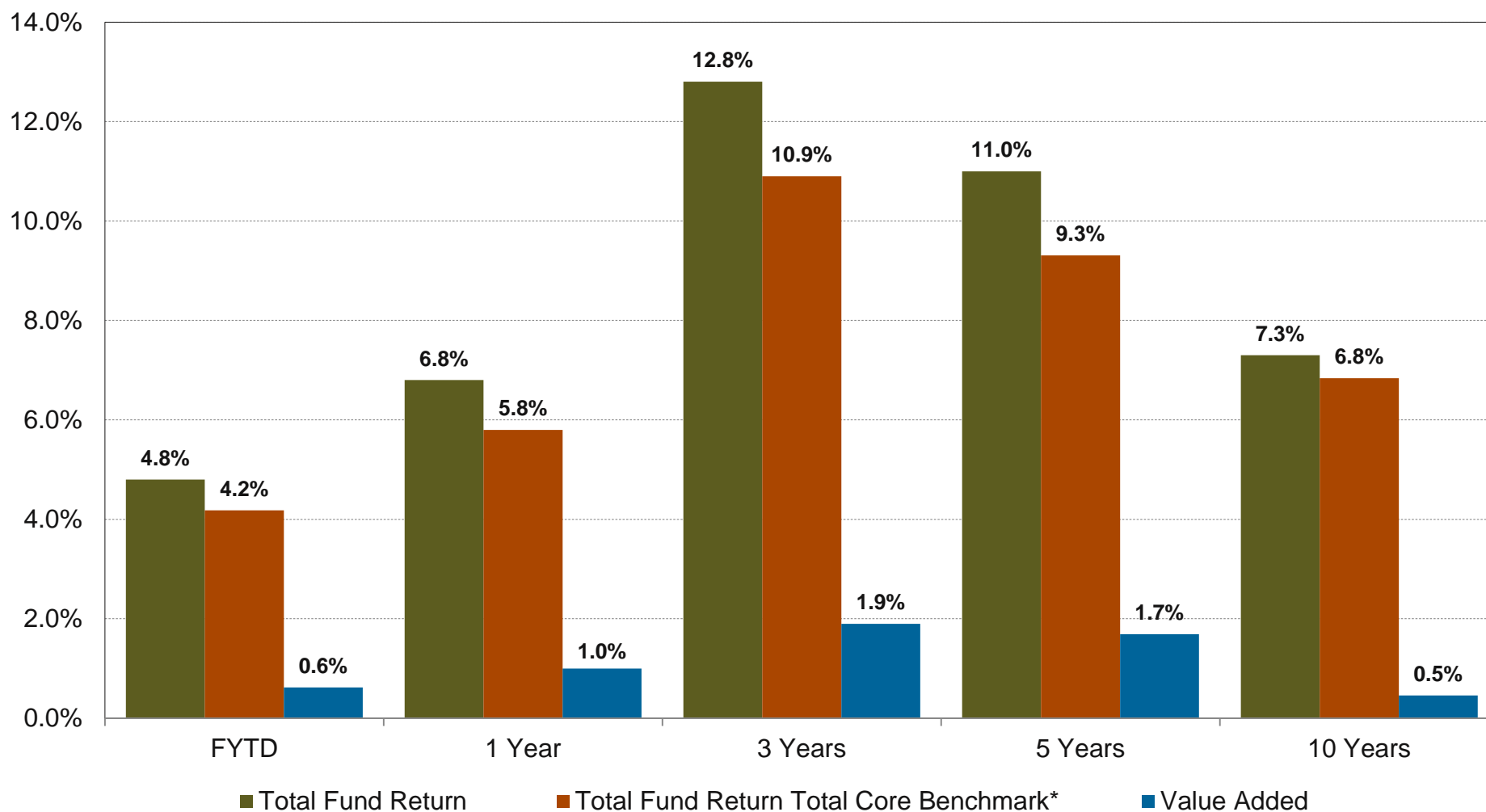
Gross of Fees as of May 31, 2015



**Excludes Private Equity Benchmark*

Total PRIT Fund Performance (\$62.0 Billion in Assets)

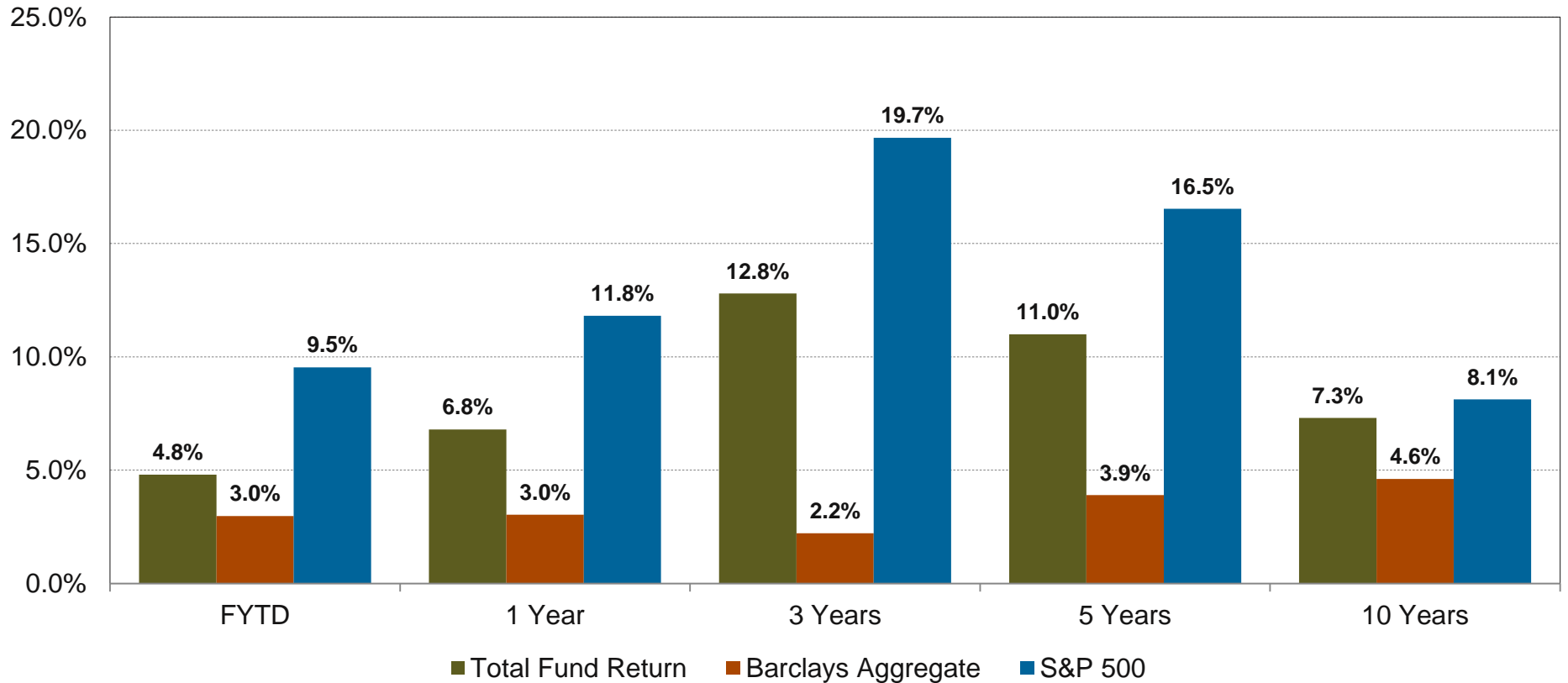
Gross of Fees as of May 31, 2015



**Includes Private Equity Benchmark*

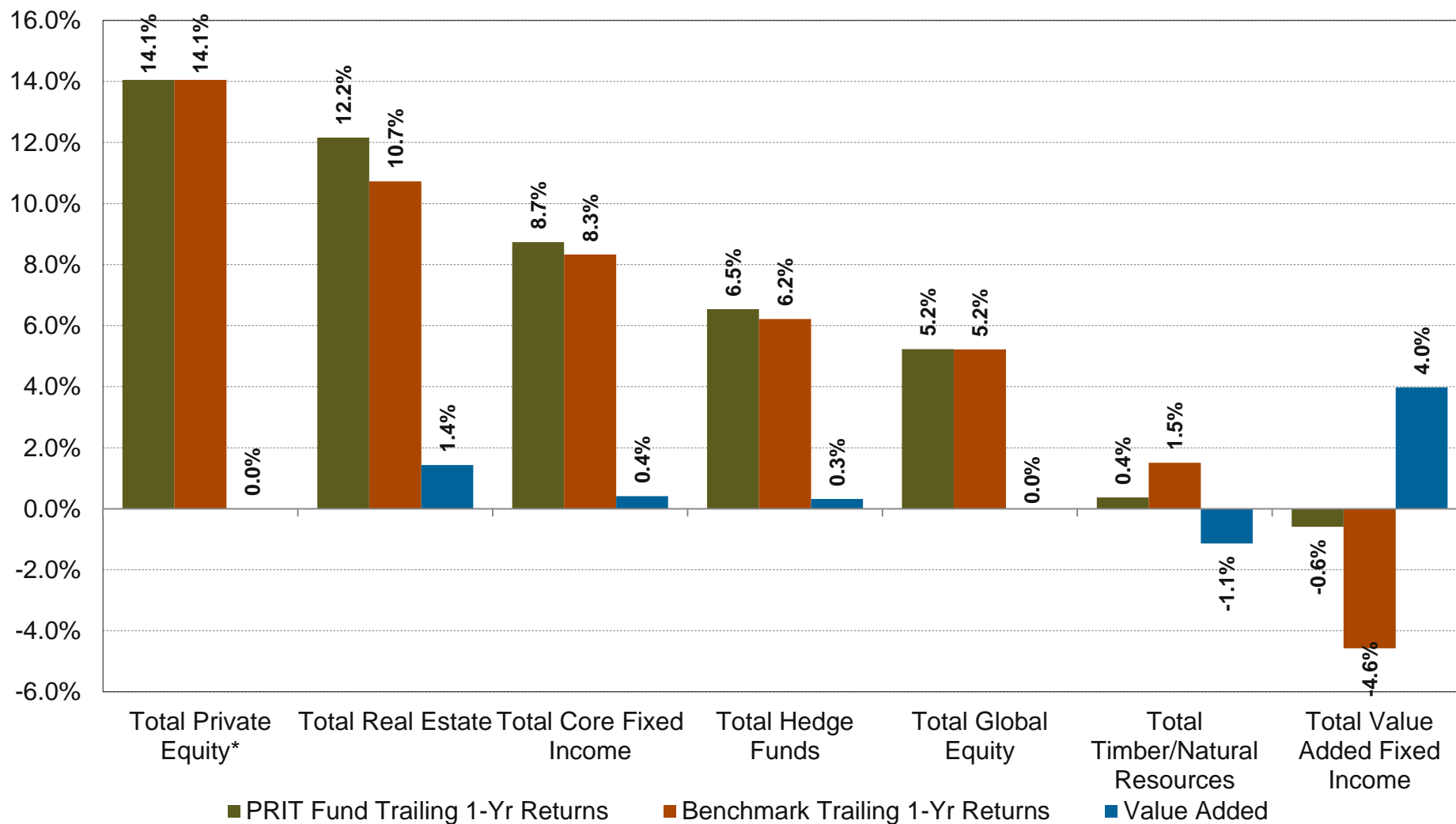
Total PRIT Fund Performance

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



PRIT Asset Class Gross Performance – Trailing 1-Year

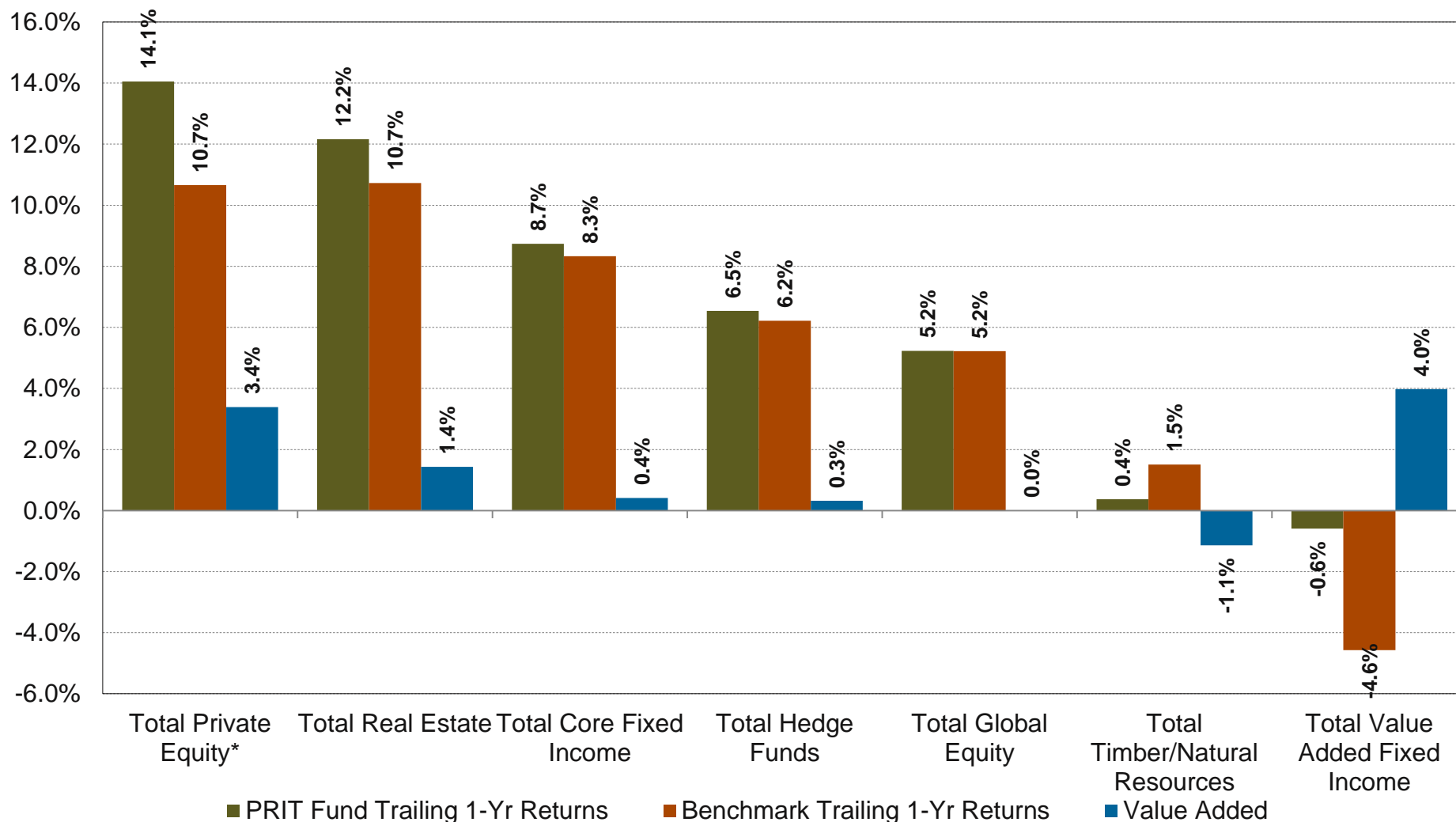
as of May 31, 2015



*Benchmark is actual performance

PRIT Asset Class Gross Performance – Trailing 1-Year

as of May 31, 2015



*Benchmark is 7yr Annualized Russell 3000 +3%

Total PRIT Fund Performance Attribution

Gross of Fees as of May 31, 2015

May 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%	(1.68%)	(1.70%)	0.00%	(0.02%)	(0.02%)
Value Added Fixed Inc	8%	10%	(0.45%)	(0.20%)	(0.02%)	0.00%	(0.02%)
Real Estate	10%	10%	0.07%	(0.28%)	0.03%	0.00%	0.03%
Timber/Natural Resources	4%	4%	(1.14%)	(0.70%)	(0.02%)	0.00%	(0.02%)
Private Equity	11%	10%	(0.38%)	0.92%	(0.14%)	0.01%	(0.13%)
Overlay	1%	0%	(0.56%)	(0.56%)	0.00%	(0.00%)	(0.00%)
Portable Alpha	0%	0%	(0.14%)	(0.14%)	0.00%	0.00%	0.00%
Portfolio Completion Stra	0%	0%	(0.53%)	0.26%	(0.00%)	(0.00%)	(0.00%)
Global Equity	43%	43%	0.16%	(0.18%)	0.15%	0.00%	0.15%
Hedge Funds	9%	10%	1.03%	1.01%	0.00%	(0.01%)	(0.01%)

Total (0.20%) = (0.18%) + 0.01% + (0.02%) (0.02%)

Fiscal Year to Date 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%	8.60%	8.30%	0.04%	0.01%	0.05%
Value Added Fixed Inc	8%	10%	(2.14%)	(5.75%)	0.33%	0.17%	0.50%
Real Estate	9%	10%	10.05%	8.07%	0.18%	(0.06%)	0.13%
Timber/Natural Resource	4%	4%	(1.44%)	(0.44%)	(0.04%)	(0.00%)	(0.04%)
Private Equity	11%	10%	9.55%	9.83%	(0.02%)	0.04%	0.01%
Overlay	1%	0%	4.03%	4.03%	0.00%	(0.00%)	(0.00%)
Portable Alpha	0%	0%	(1.24%)	(1.24%)	0.00%	(0.00%)	(0.00%)
Portfolio Completion Stra	0%	0%	-	-	(0.01%)	0.00%	(0.01%)
Global Equity	42%	43%	3.08%	2.99%	0.04%	(0.05%)	(0.01%)
Hedge Funds	9%	10%	5.20%	5.16%	0.00%	(0.01%)	(0.01%)

Total 4.79% = 4.18% + 0.53% + 0.09% 0.62%

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%	8.74%	8.33%	0.06%	(0.01%)	0.05%
Value Added Fixed Income	8%	10%	(0.59%)	(4.58%)	0.37%	0.18%	0.55%
Real Estate	9%	10%	12.16%	10.73%	0.14%	(0.07%)	0.07%
Timber/Natural Resources	4%	4%	0.37%	1.51%	(0.04%)	(0.00%)	(0.05%)
Private Equity	11%	10%	14.05%	10.66%	0.36%	0.03%	0.39%
Overlay	1%	0%	5.01%	5.01%	0.00%	(0.01%)	(0.01%)
Portable Alpha	0%	0%	(0.64%)	(0.64%)	0.00%	(0.00%)	(0.00%)
Portfolio Completion Stra	0%	0%	-	-	(0.01%)	0.00%	(0.01%)
Global Equity	42%	43%	5.23%	5.22%	0.01%	(0.05%)	(0.05%)
Hedge Funds	9%	10%	6.54%	6.20%	0.03%	(0.01%)	0.02%

Total 6.76% = 5.80% + 0.91% + 0.06% 0.96%

Total Global Equity Performance Attribution

Gross of Fees as of May 31, 2015

May 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%	1.40%	1.29%	0.04%	0.00%	0.04%
Small/SMID Equity	9%	9%	1.81%	2.06%	(0.02%)	0.00%	(0.02%)
International Equity	39%	40%	(0.19%)	(0.66%)	0.18%	0.00%	0.18%
Emerging Equity	16%	16%	(2.62%)	(3.45%)	0.13%	0.00%	0.13%
Cash Equiv	0%	0%	51.18%	51.18%	0.00%	0.00%	0.00%

Total	0.16% = (0.18%) + 0.33% + 0.01%	0.34%
--------------	--	--------------

Fiscal Year to Date 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%	9.83%	9.54%	0.10%	0.01%	0.10%
Small/SMID Equity	10%	9%	3.42%	6.14%	(0.26%)	(0.03%)	(0.29%)
International Equity	39%	40%	(0.29%)	(1.86%)	0.62%	0.03%	0.66%
Emerging Equity	16%	16%	(3.16%)	(1.25%)	(0.32%)	(0.06%)	(0.38%)
Cash Equiv	0%	0%	-	-	0.00%	0.00%	0.00%

Total	3.08% = 2.99% + 0.14% + (0.05%)	0.09%
--------------	--	--------------

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%	12.11%	11.81%	0.11%	0.01%	0.11%
Small/SMID Equity	10%	9%	8.31%	11.21%	(0.27%)	(0.02%)	(0.29%)
International Equity	39%	40%	0.94%	(0.36%)	0.51%	0.03%	0.55%
Emerging Equity	16%	16%	(0.56%)	1.20%	(0.30%)	(0.06%)	(0.35%)
Cash Equiv	0%	0%	-	-	0.00%	0.00%	0.00%

Total	5.23% = 5.22% + 0.05% + (0.04%)	0.01%
--------------	--	--------------



Appendix

Gross of Fees Asset Class &
Manager Specific Performance

Major Contributors Gross Performance – Trailing 1-Year

as of May 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%	32.39	5.74	13.95	12.57	11.66	14.32	07/31/2001
Altman NYU Salomon Center Combined Defaulted Public Bond & Bank Loan Index			-9.32	6.39	5.02	7.73	11.41	
Value Added (bps)			1505	757	755	393	290	
MARATHON ASSET MANAGEMENT	4.1%	15.05	3.16	18.20	12.56	9.17	9.14	10/31/1996
Custom MSCI EAFE Standard Index Net Divs			-0.54	15.74	9.88	5.55	5.01	
Value Added (bps)			370	246	269	362	413	
DIRECT HEDGE FUNDS	7.0%	9.31	7.56	9.27			8.15	11/30/2011
HFRI Fund of Funds Composite Index			6.22	6.56	-	-	5.55	
Value Added (bps)			134	271	-	-	260	
BAILLIE GIFFORD	3.0%	6.42	1.60	15.97	11.86	7.97	8.74	08/31/2004
Custom MSCI EAFE Standard Index Net Divs			-0.54	15.74	9.88	5.55	6.56	
Value Added (bps)			214	23	198	241	218	
SSGA WORLD EX-US	8.5%	6.18	-0.35	15.50	10.02	6.17	6.44	03/31/1992
Custom MSCI World Ex-US IMI Net Divs			-1.08	14.79	9.45	5.54	5.96	
Value Added (bps)			72	71	57	63	48	
INTECH	1.5%	4.34	14.76	20.59	17.35		8.52	01/31/2006
S&P 500			11.81	19.67	16.54	-	7.98	
Value Added (bps)			296	92	81	-	54	
LOOMIS SAYLES CORE	1.8%	2.18	4.23	4.12	5.47	5.46	7.57	05/31/1990
Barclays Capital Aggregate			3.03	2.21	3.90	4.61	6.59	
Value Added (bps)			119	190	157	85	99	
CENTERSQUARE GLOBAL REIT	1.3%	2.16	7.48	13.77			10.97	05/31/2012
FTSE EPRA NAREIT Developed Net Total Return			5.77	13.18	-	-	10.43	
Value Added (bps)			171	59	-	-	54	
MONDRIAN INVESTMENT	1.3%	1.78	0.81	16.89	10.94		1.82	06/30/2008
Custom MSCI EAFE Standard Index Net Divs			-0.54	15.74	9.88	-	1.11	
Value Added (bps)			135	115	106	-	72	
T. ROWE PRICE NR	0.3%	1.50	-13.72	8.15	5.60		-3.30	07/31/2008
Lipper Natural Resources Global Fund Index			-18.30	3.42	1.66	-	-6.62	
Value Added (bps)			458	474	393	-	332	

*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

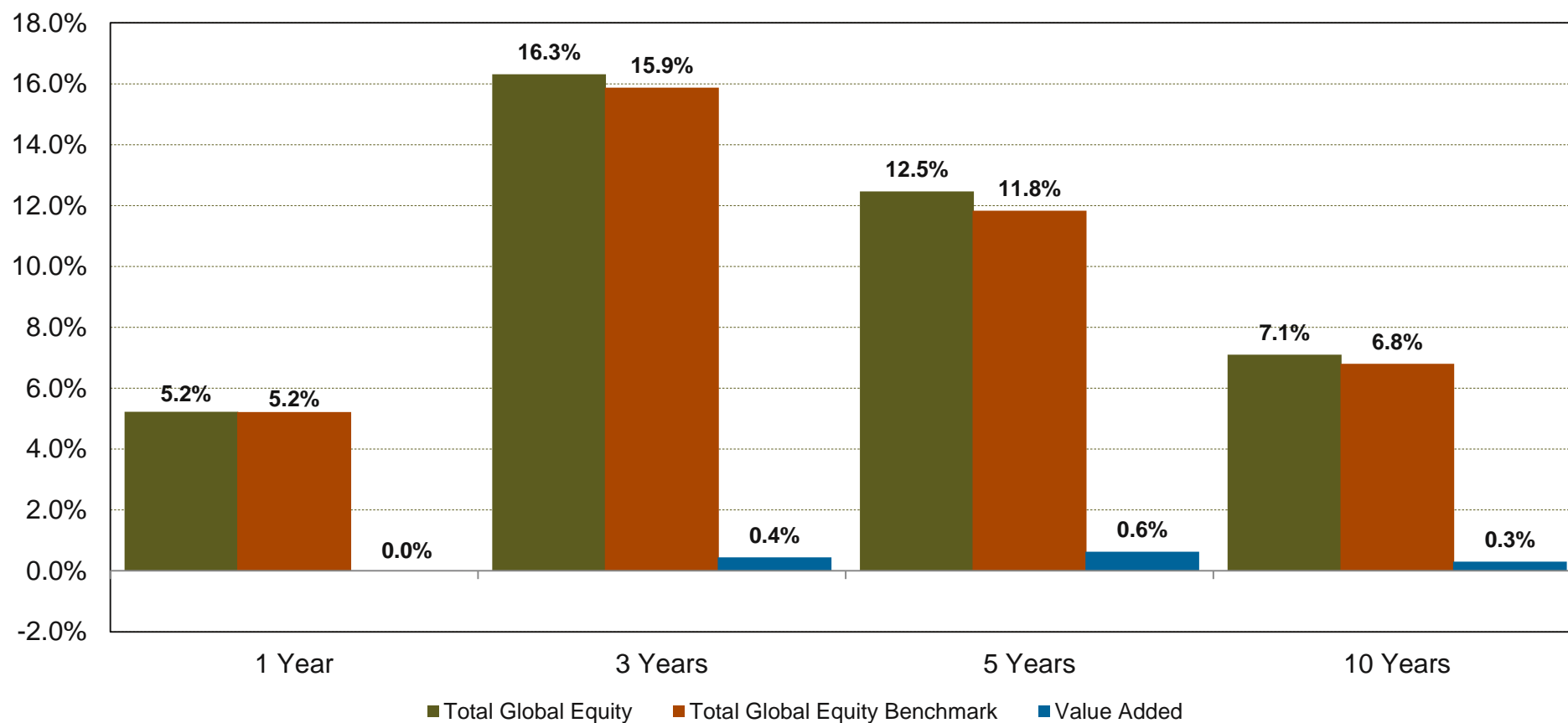
as of May 31, 2015

	% of PRIT Fund	1-Year Relative Performance (BPS)	One Year	3 Years	5 Years	10 Years	Since Inception	Inception
PAAMCO	2.4%	-5.89	3.74	10.16	6.49	5.76	5.51	08/31/2004
100% HFRI Fund of Funds Composite Index			6.22	6.56	4.26	5.27	5.34	
Value Added (bps)			-248	359	223	50	18	
HUBER	0.4%	-5.53	-8.11				4.28	05/31/2013
Russell 2000 Value			5.10	-	-	-	11.94	
Value Added (bps)			-1321	-	-	-	-766	
SOUTHERNSUN	0.3%	-2.26	2.98				17.60	05/31/2013
Russell 2500			11.76	-	-	-	16.13	
Value Added (bps)			-879	-	-	-	146	
JENNISON	0.3%	-2.19	-25.18	0.75	0.70		-4.64	07/31/2008
Lipper Natural Resources Global Fund Index			-18.30	3.42	1.66	-	-6.62	
Value Added (bps)			-688	-	-	-	198	
RIVERBRIDGE	0.3%	-1.58	11.52				13.47	05/31/2013
Russell 2500 Growth			17.55	-	-	-	19.54	
Value Added (bps)			-603	-	-	-	-607	
ASHMORE	0.8%	-1.46	-1.09	4.88	7.35	8.69	9.76	01/31/2004
JPM EMBI Global			0.72	5.25	7.31	7.71	8.07	
Value Added (bps)			-181	-37	4	99	169	
SUMMIT CREEK	0.3%	-1.46	13.33				16.32	05/31/2013
Russell 2000 Growth			17.73	-	-	-	19.28	
Value Added (bps)			-440	-	-	-	-295	
STONE HARBOR	0.5%	-0.36	-14.27	-3.09			-5.58	05/31/2012
JPM GBI EM Global Diversified			-13.49	-1.62	-	-	-3.97	
Value Added (bps)			-78	-147	-	-	-160	
PIMCO EMD	0.5%	-0.36	0.02	4.85	7.02	7.63	8.12	02/29/2004
JPM EMBI Global			0.72	5.25	7.31	7.71	8.08	
Value Added (bps)			-70	-40	-29	-8	4	
SSGA R2500	2.6%	-0.35	11.62	20.11			18.59	12/31/2011
Russell 2500			11.76	20.36	-	-	18.78	
Value Added (bps)			-14	-25	-	-	-19	

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

PRIT Global Equity (\$26.7 Billion)

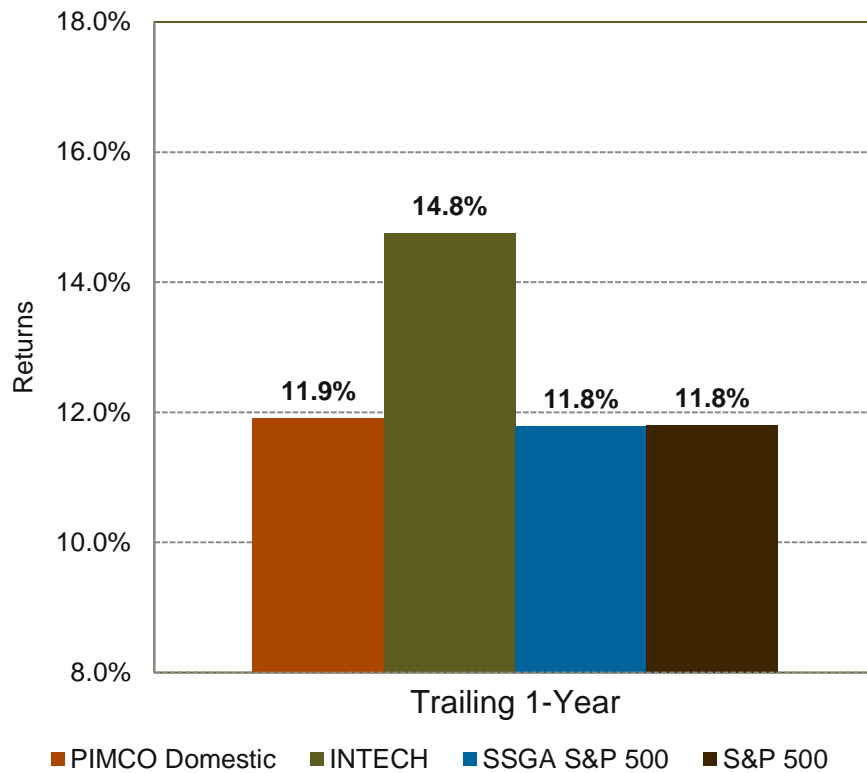
Gross of Fees Performance as of May 31, 2015



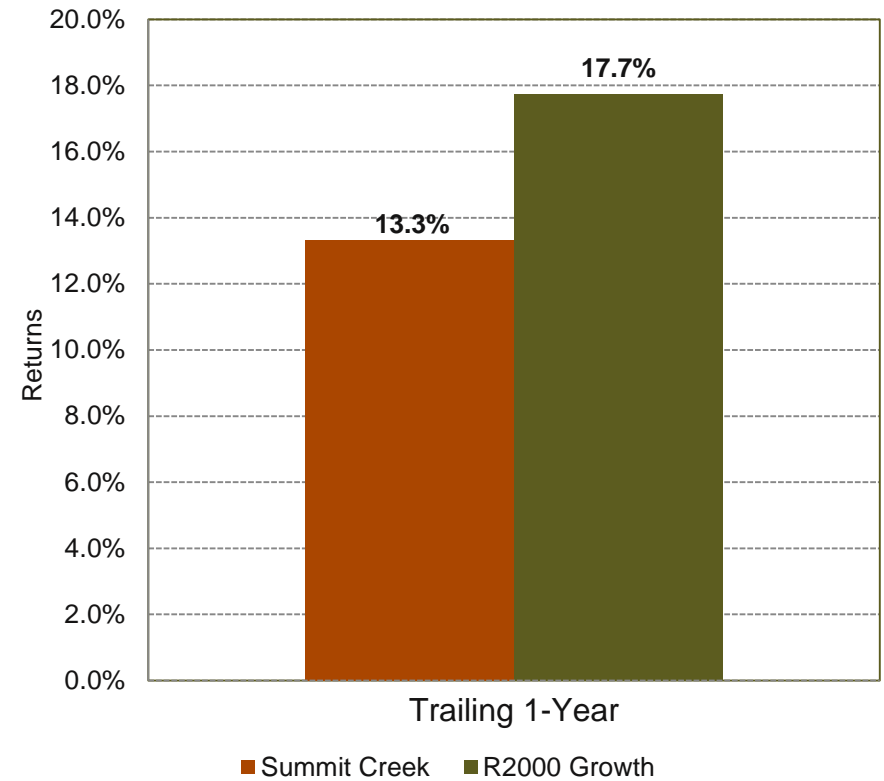
Domestic Equity Managers

as of May 31, 2015

Large Cap Managers vs. S&P 500



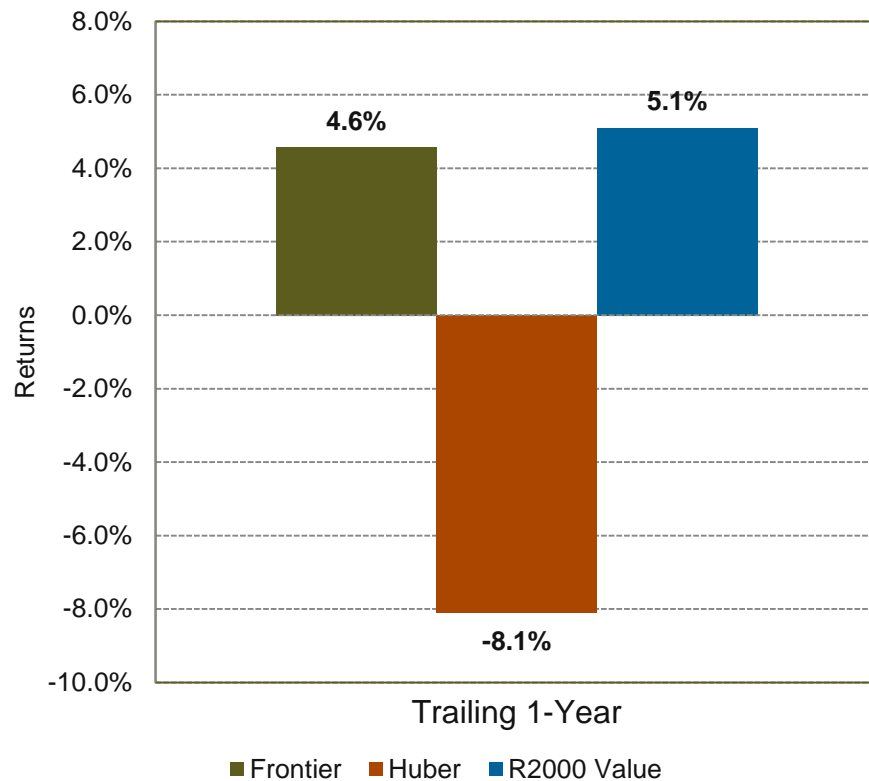
Small Cap Growth Manager vs. R2000 Growth



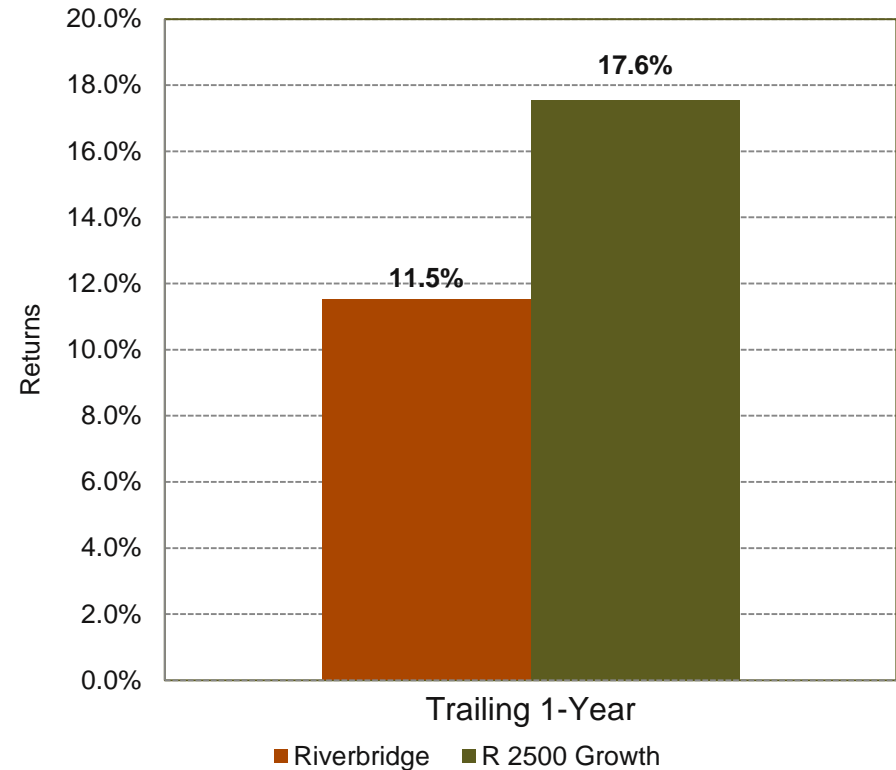
Domestic Equity Managers

as of May 31, 2015

Small Cap Value Managers vs. Russell 2000 Value



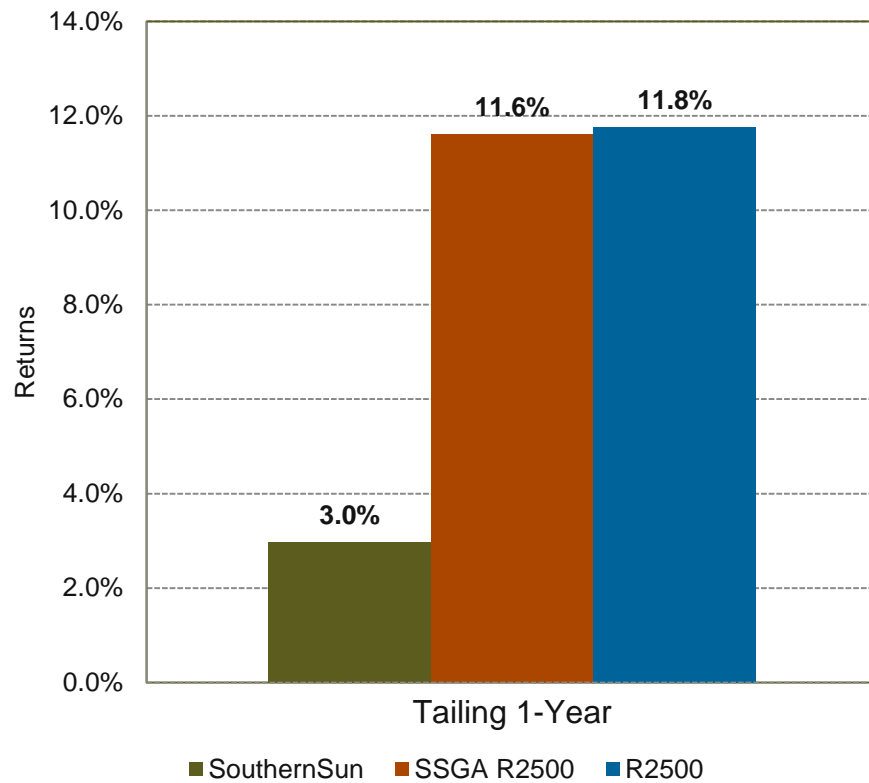
Smid Cap Growth Manager vs. Russell 2500



Domestic Equity Managers

as of May 31, 2015

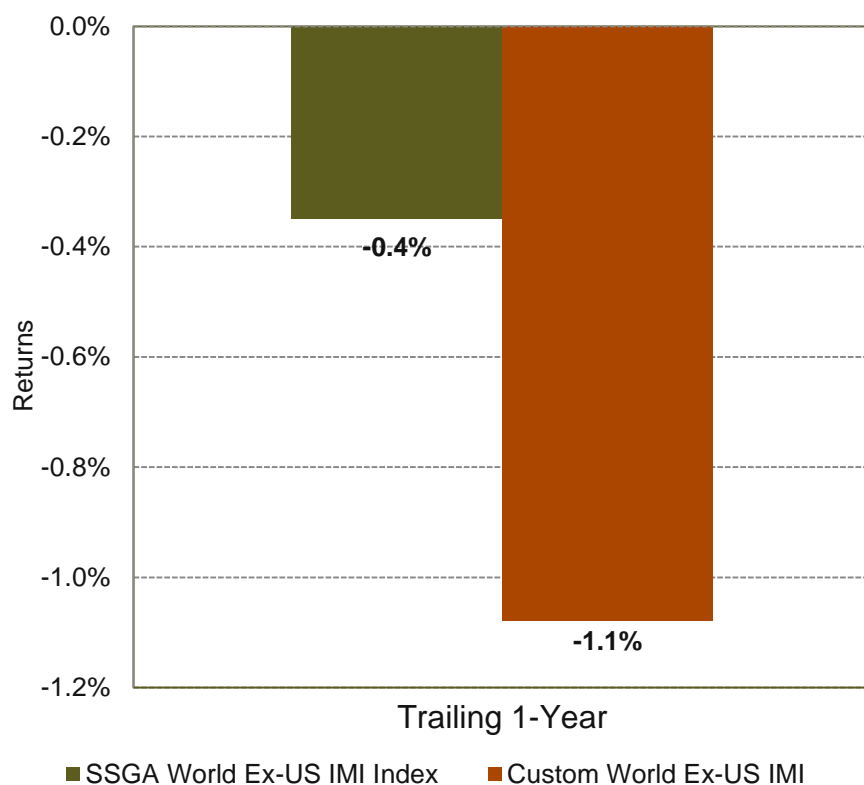
Smid Cap Core Managers vs. Russell 2500



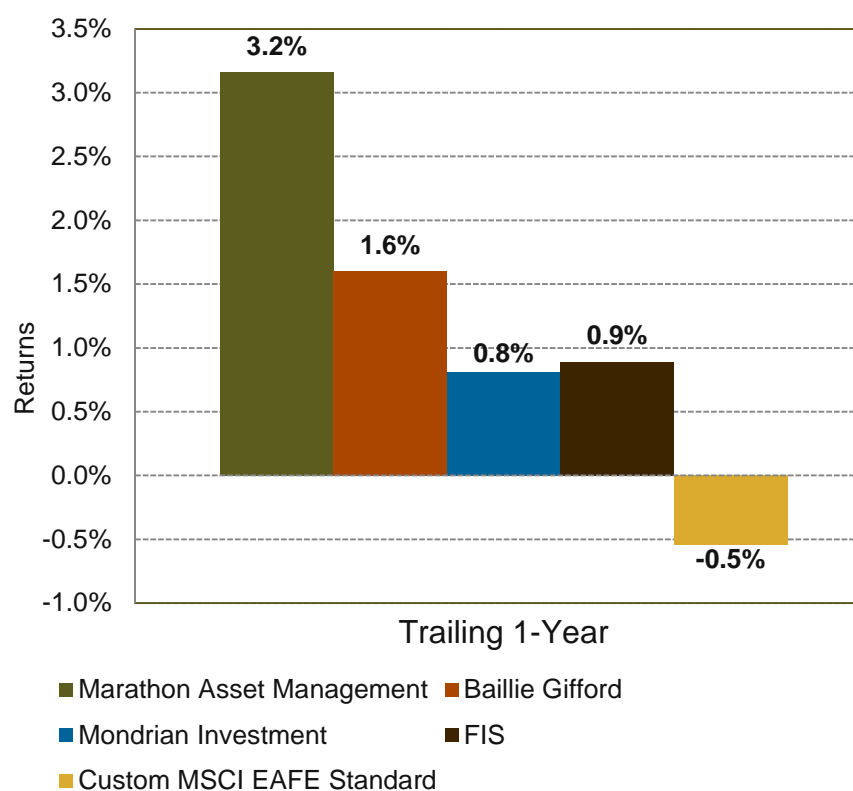
PRIT International Equity Managers

as of May 31, 2015

Versus World Ex-US IMI Index



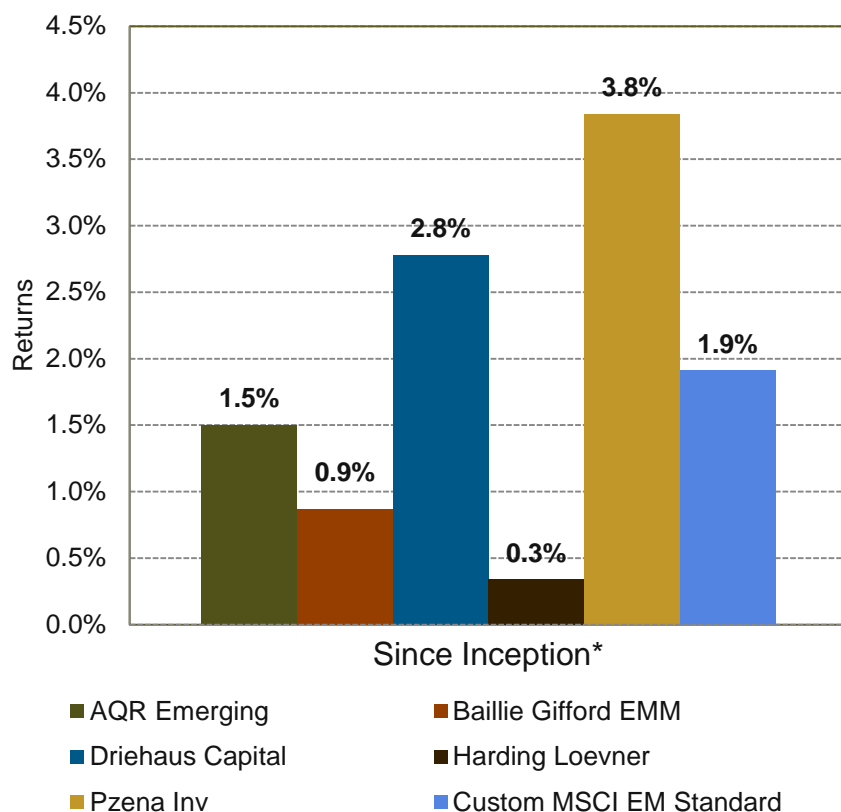
Versus MSCI EAFE Standard Index



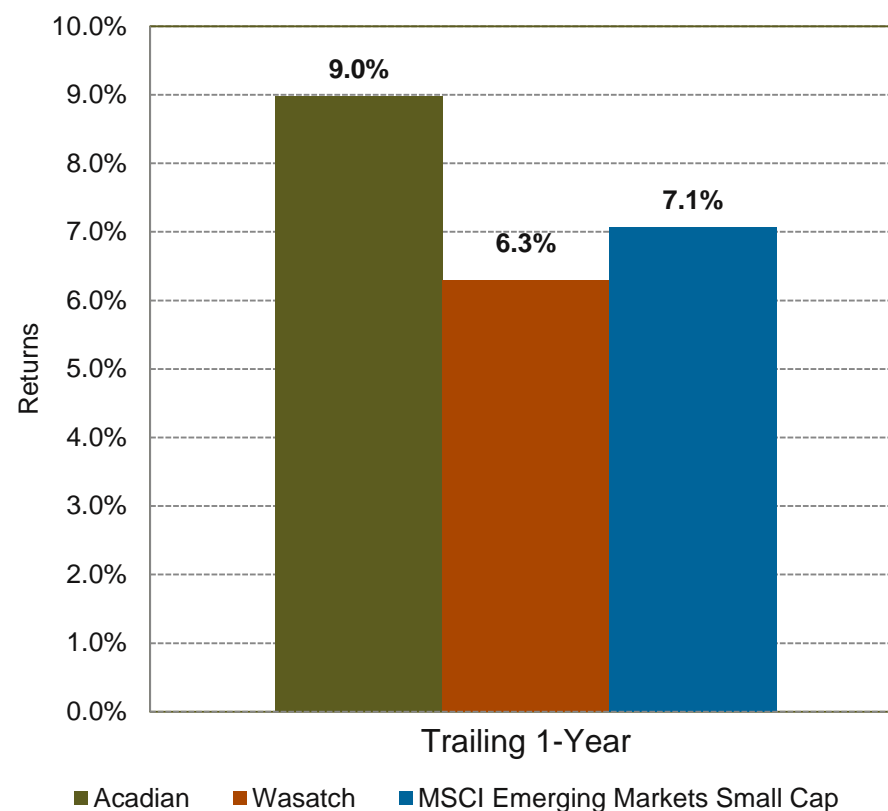
PRIT Emerging Markets Equity Managers

as of May 31, 2015

Versus MSCI Emerging Markets Standard Index



Versus MSCI Emerging Markets Small Cap Index

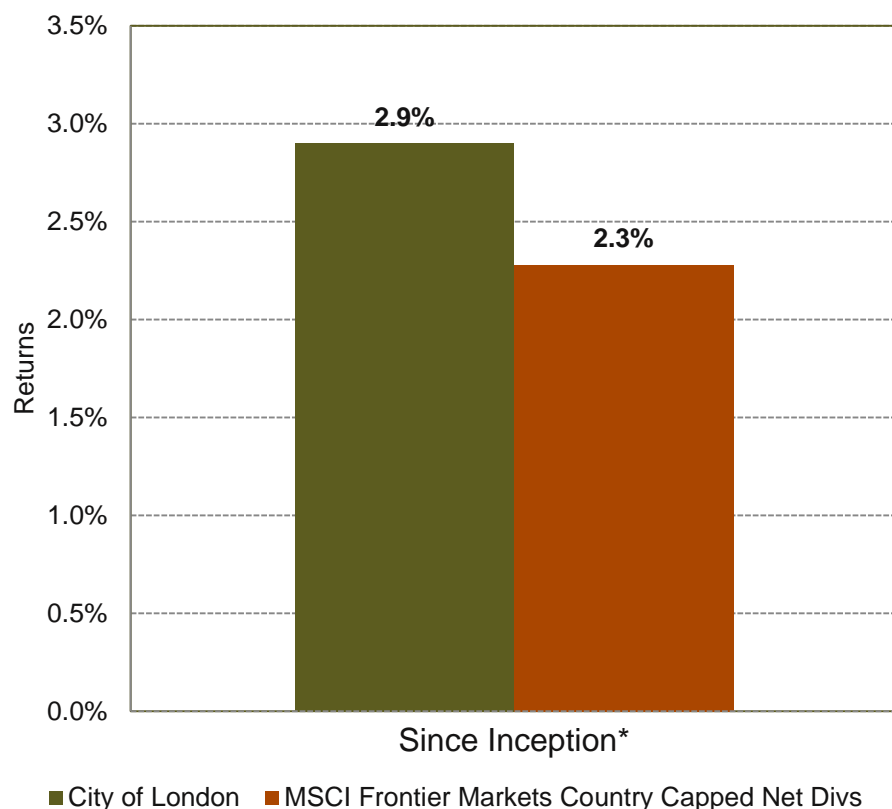


* "Since Inception" figure used due to lack of trailing 1-year returns.
Inception date of 3/31/2015 for AQR Emerging, Baillie Gifford EMM, Driehaus Capital, Harding Loevner and Pzena Inv.

PRIT Emerging Markets Equity Managers

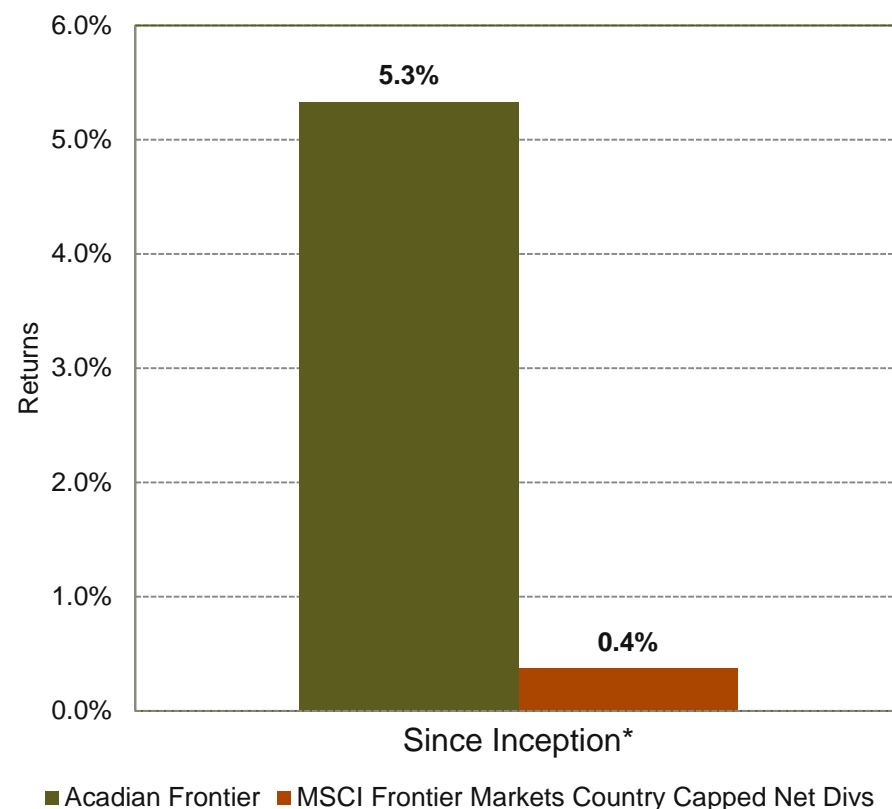
as of May 31, 2015

Versus MSCI Frontier Markets Country Capped Index



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

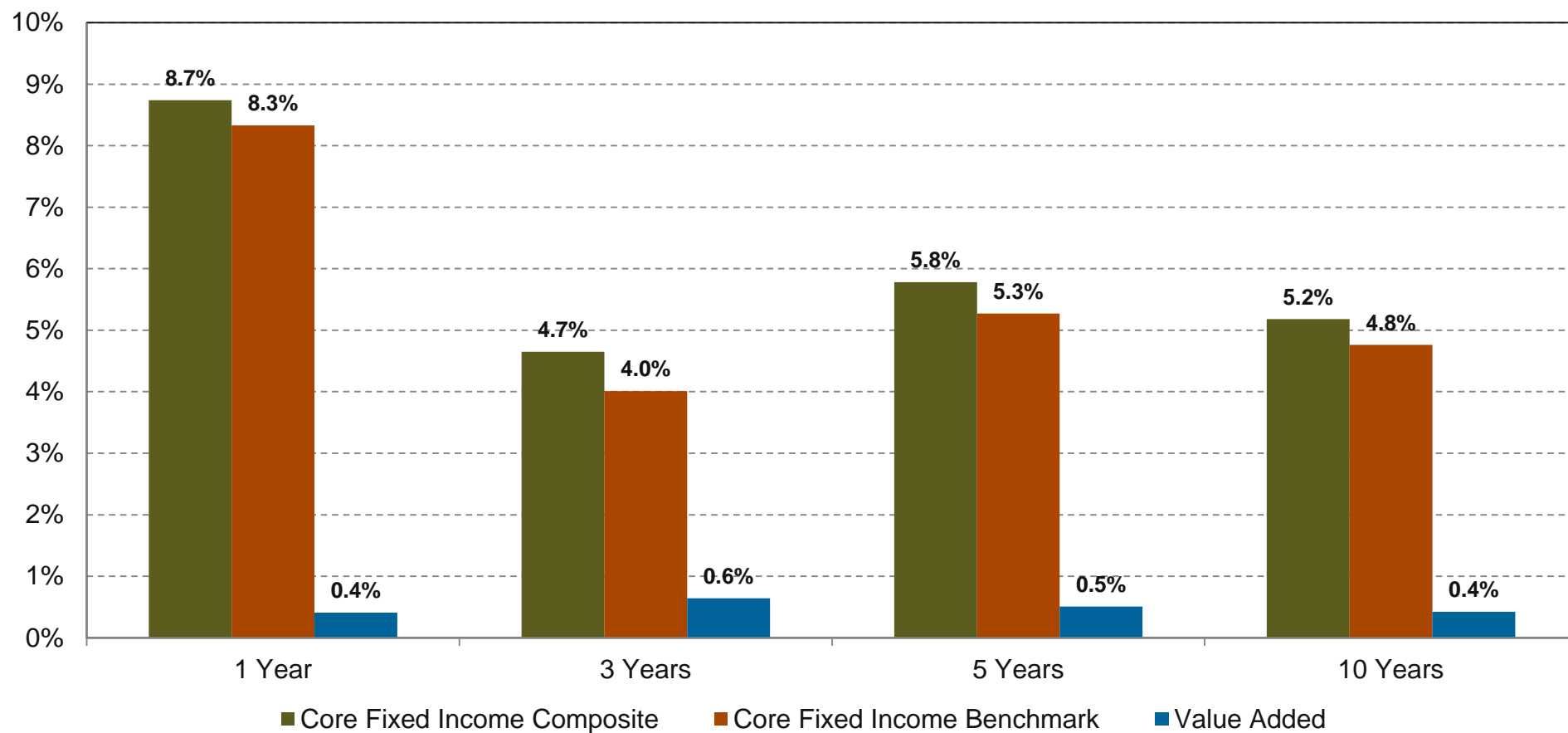
Versus MSCI Frontier Markets Country Capped Index



* "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 (\$8.7 Billion)

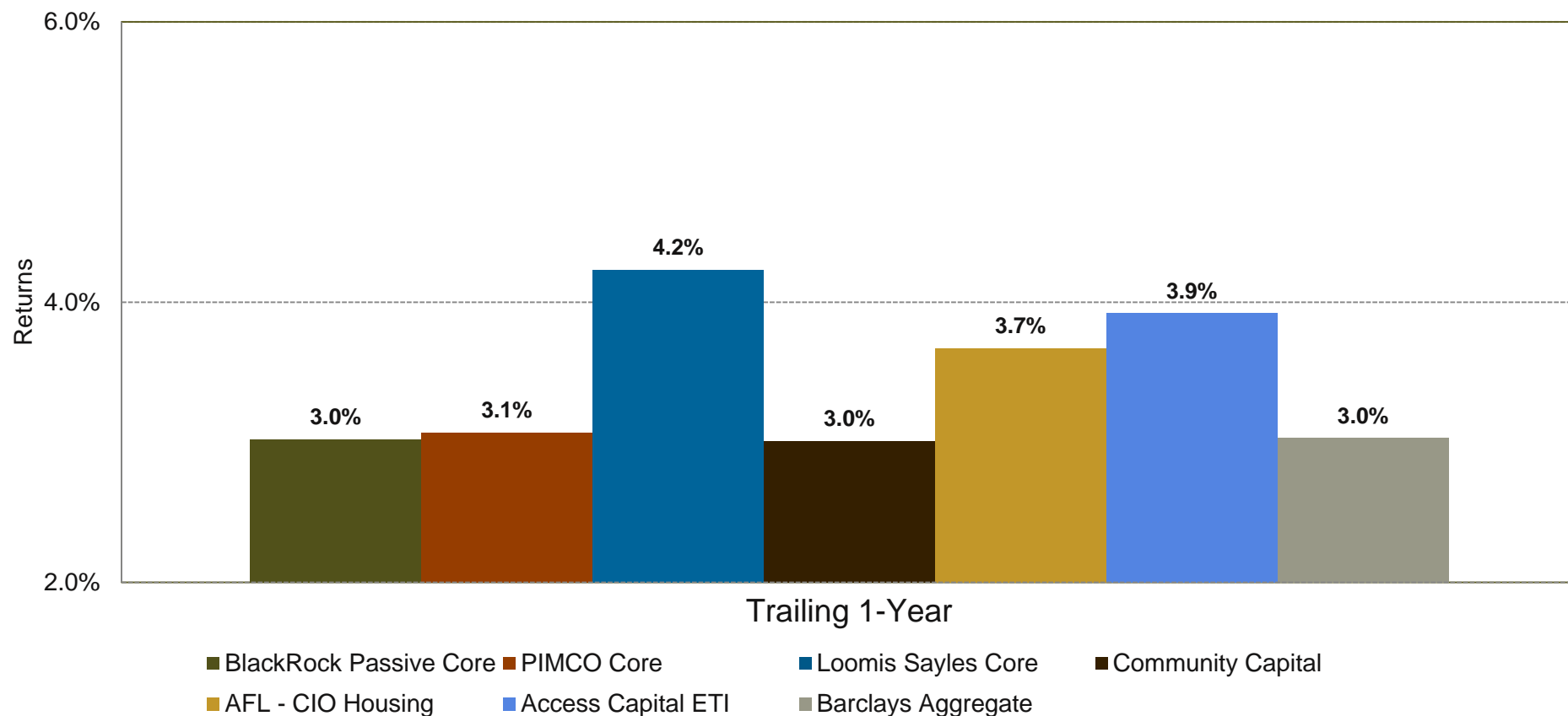
Gross of Fees Performance as of May 31, 2015



PRIT Fixed Income Managers

as of May 31, 2015

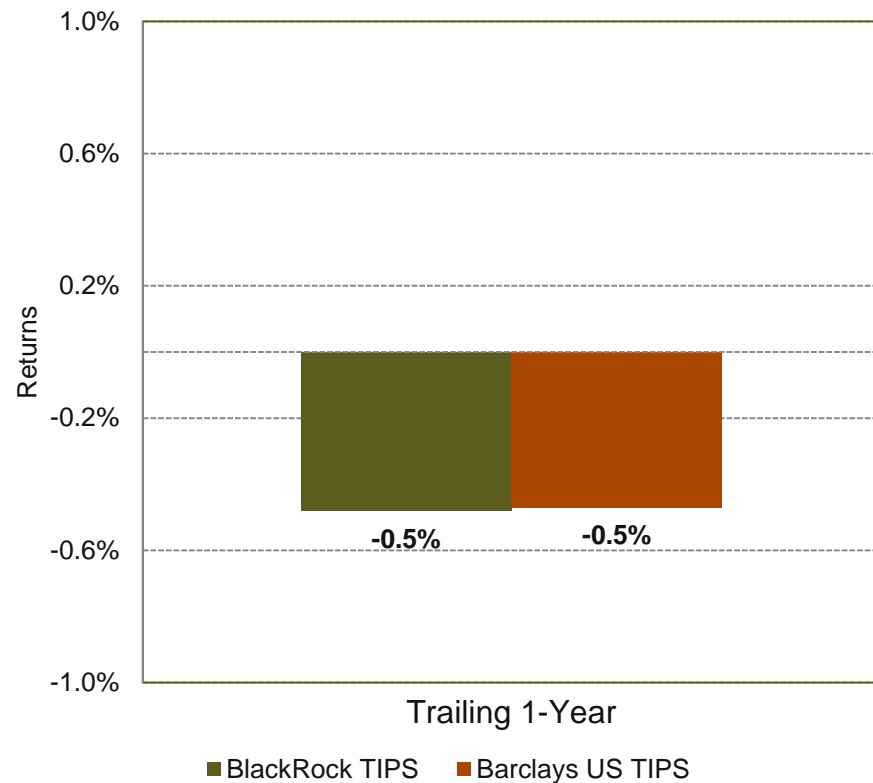
Versus Barclays Aggregate



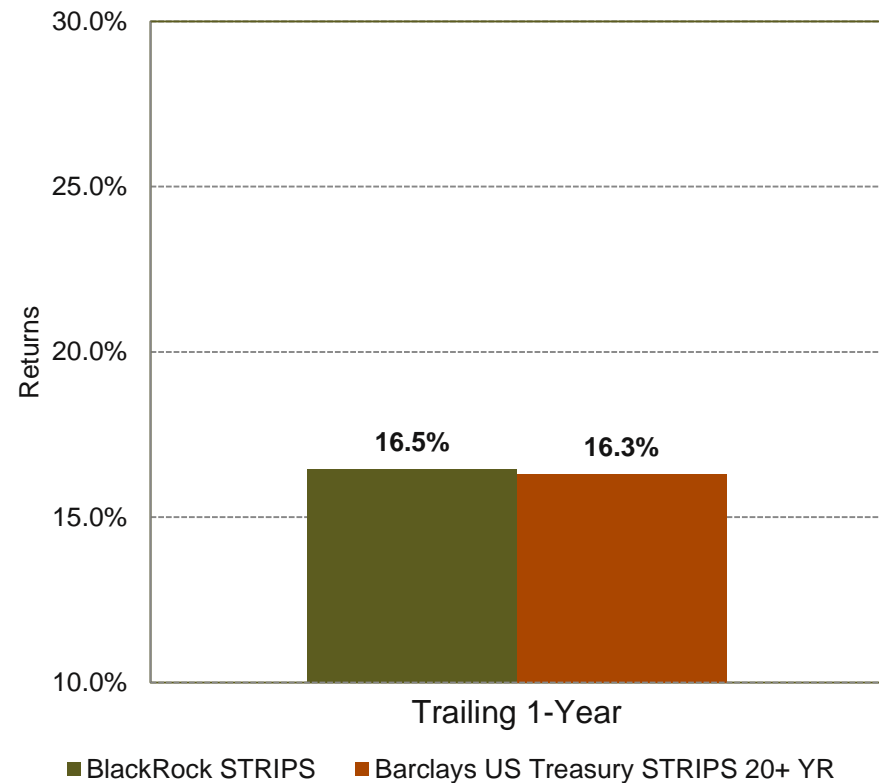
PRIT Fixed Income Managers

as of May 31, 2015

BlackRock Versus Barclays U.S. TIPS



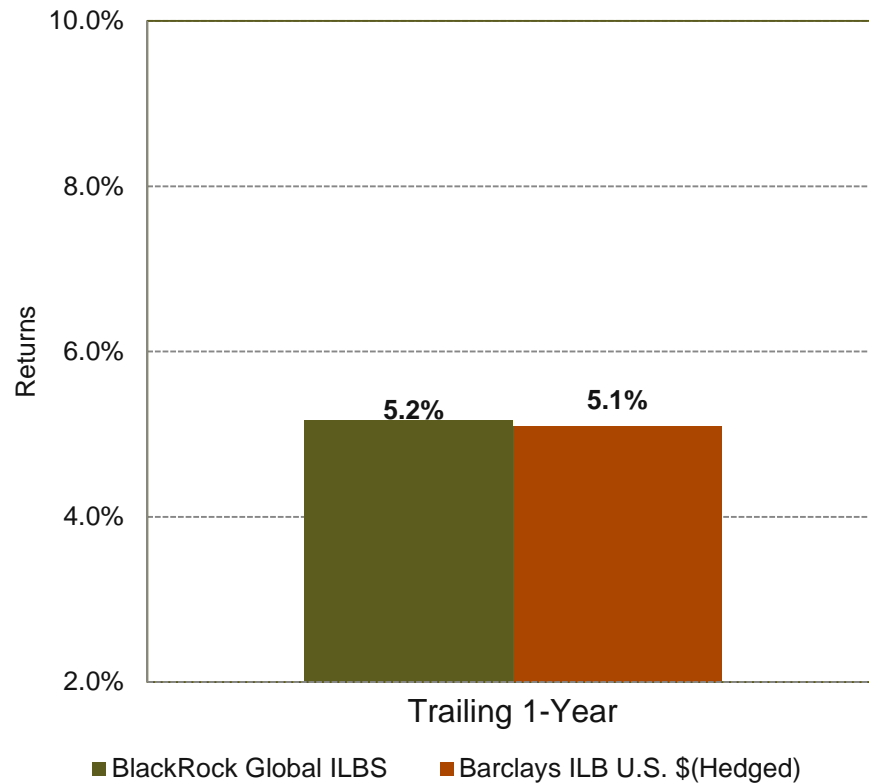
BlackRock STRIPS vs. BC U.S. Treasury STRIPS 20+ Year



PRIT Fixed Income Managers

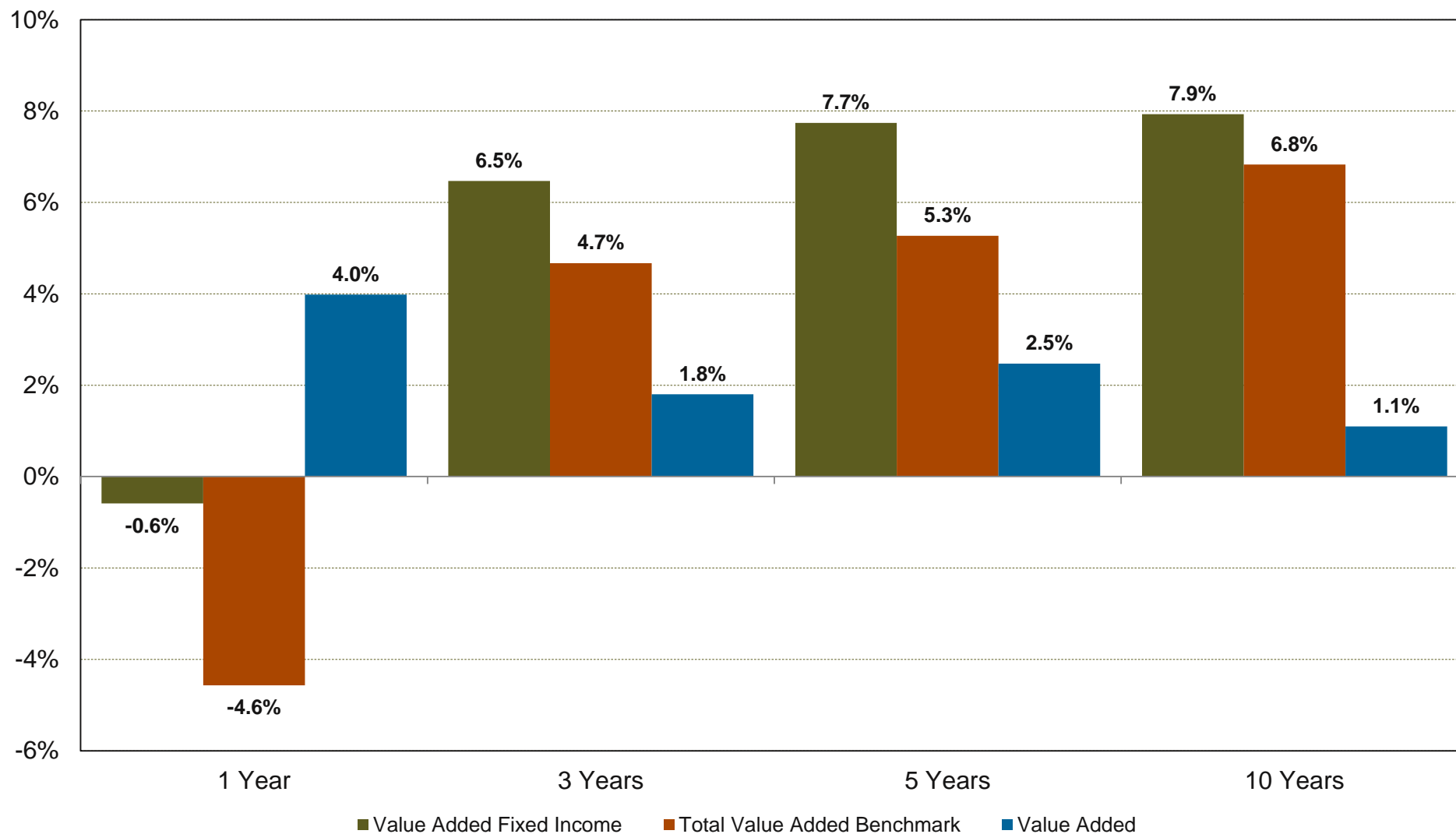
as of May 31, 2015

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



PRIT Value Added Fixed Income (\$5.1 Billion)

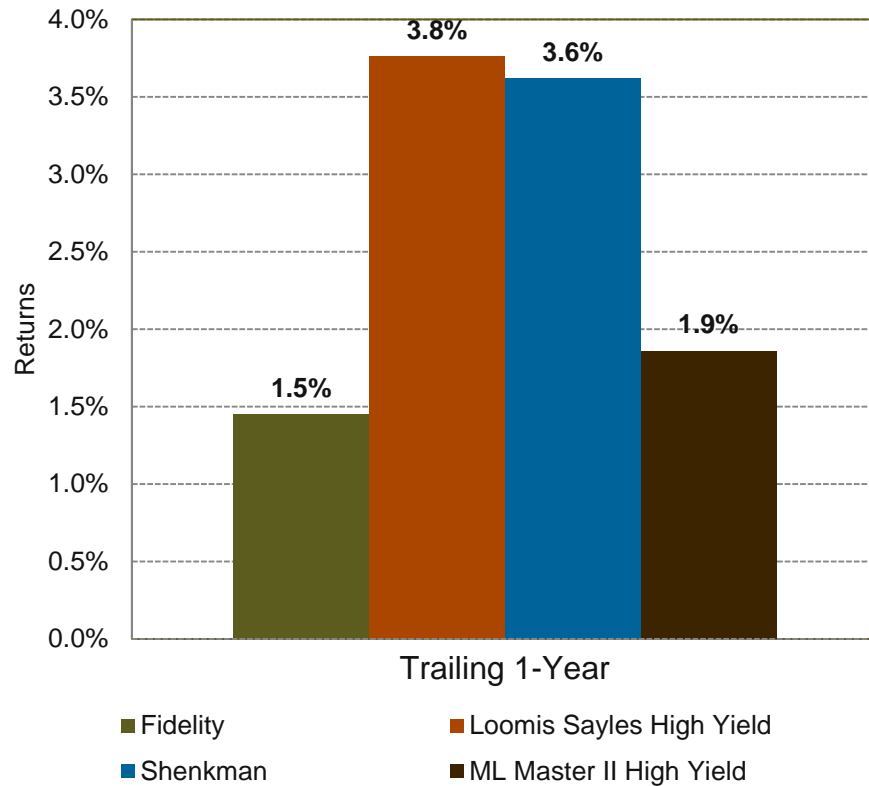
Gross of Fees Performance as of May 31, 2015



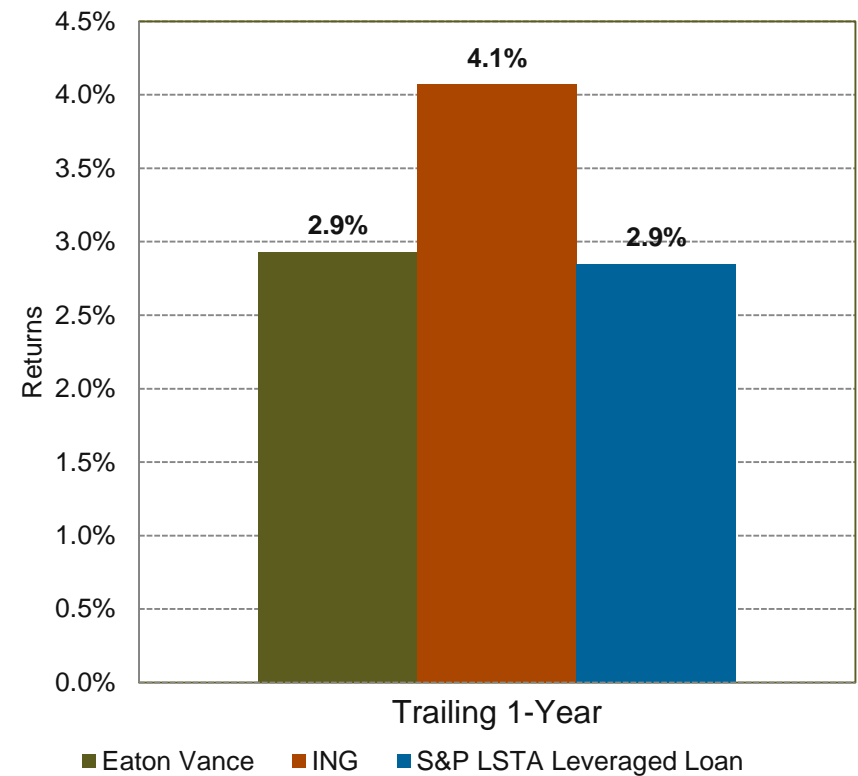
PRIT Value Added Fixed Income Managers

as of May 31, 2015

High Yield Managers vs. ML Master II High Yield



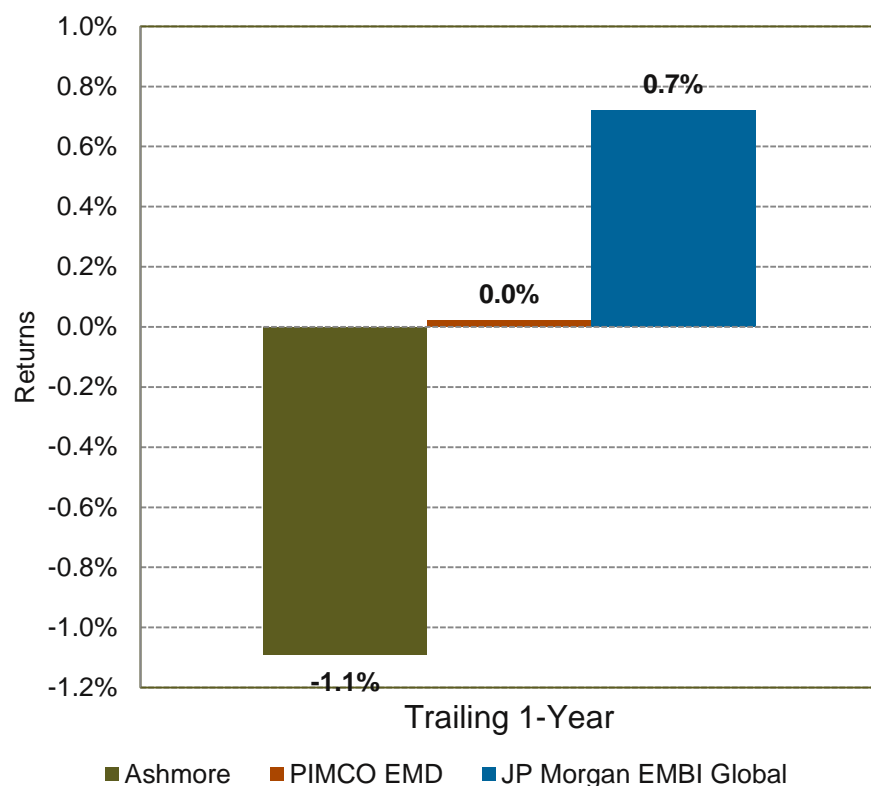
Bank Loan Managers vs. S&P LSTA Leveraged Loan



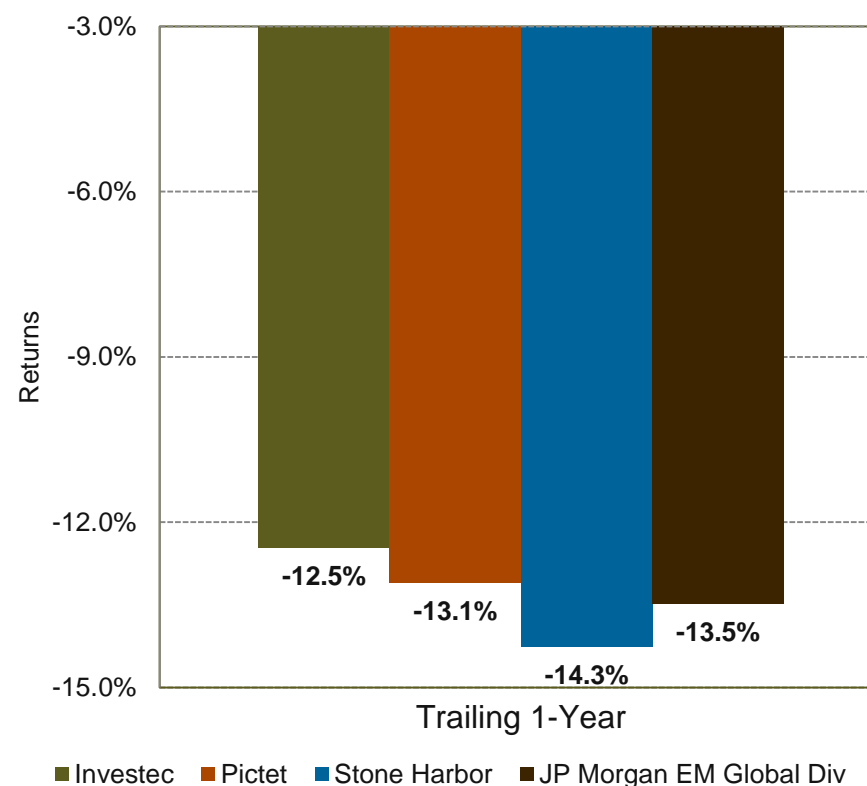
PRIT Value Added Fixed Income Managers

as of May 31, 2015

Emerging Debt Managers vs. JP Morgan EMBI Global



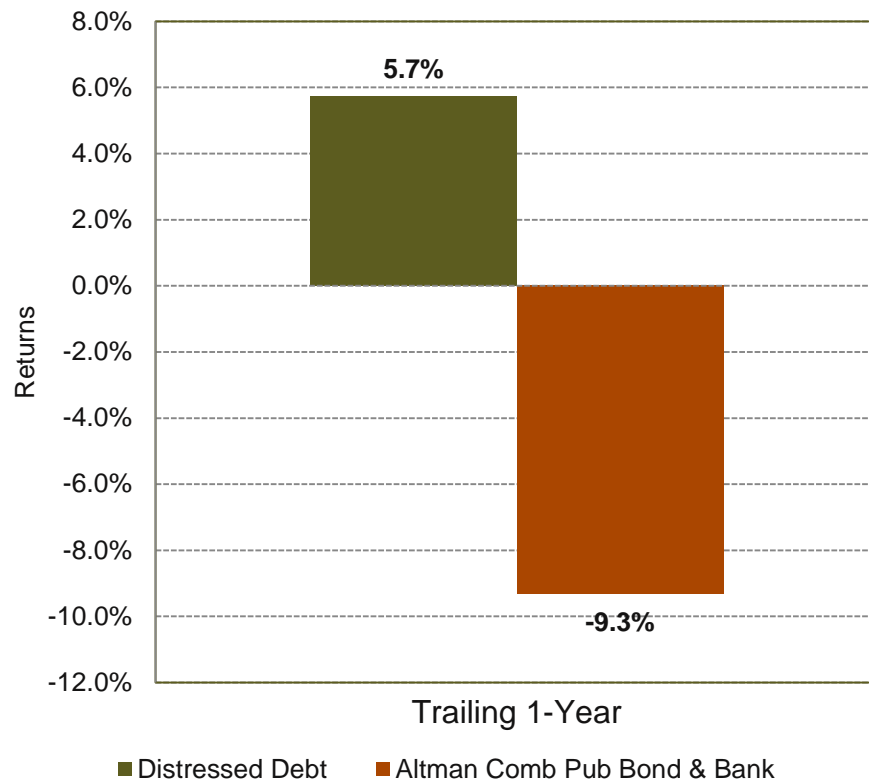
Emerging Markets Debt Local vs. JP Morgan EM Global Diversified



PRIT Value Added Fixed Income Managers

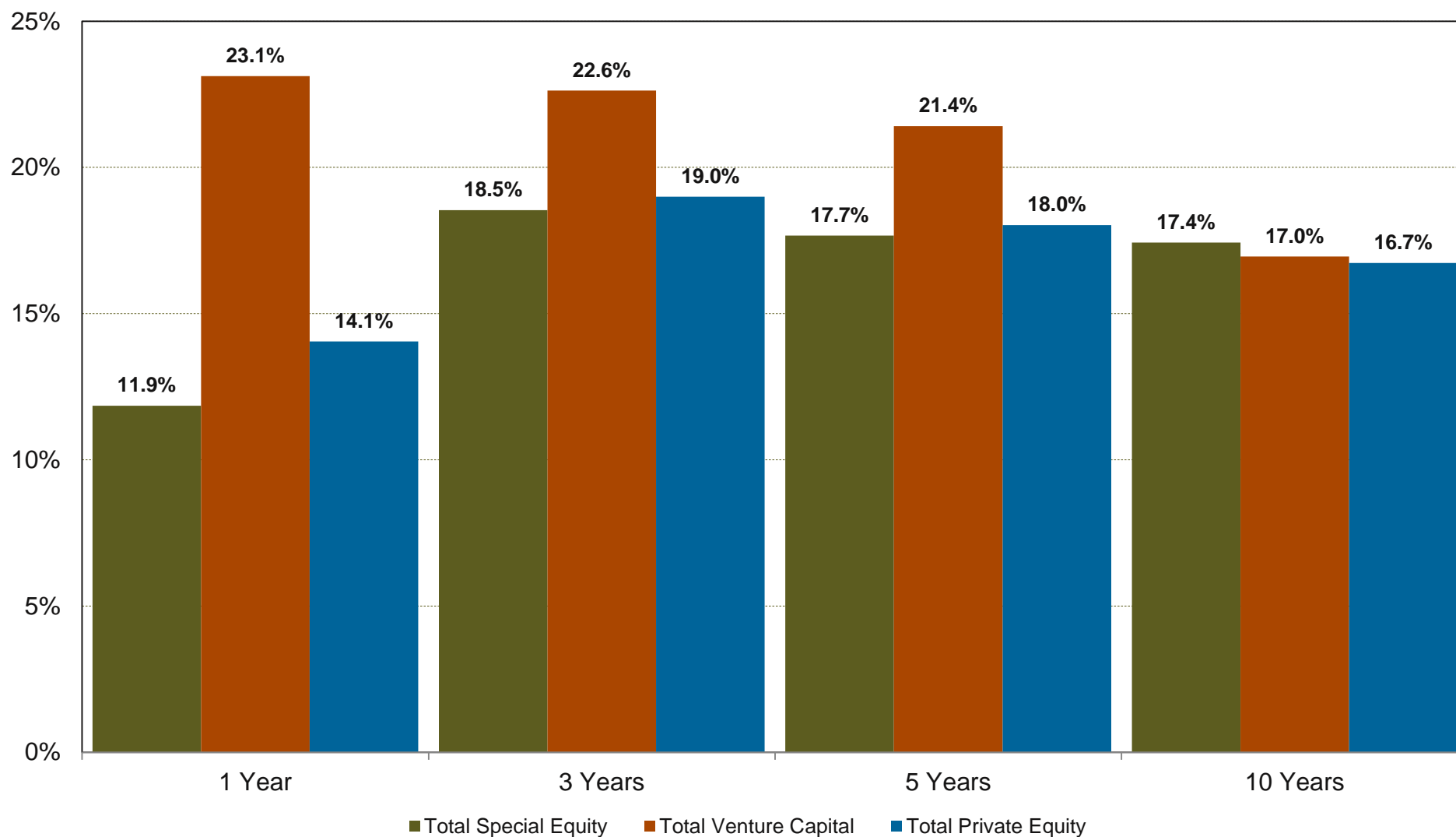
as of May 31, 2015

Distressed Debt vs. Altman Comb Pub Bond & Bank



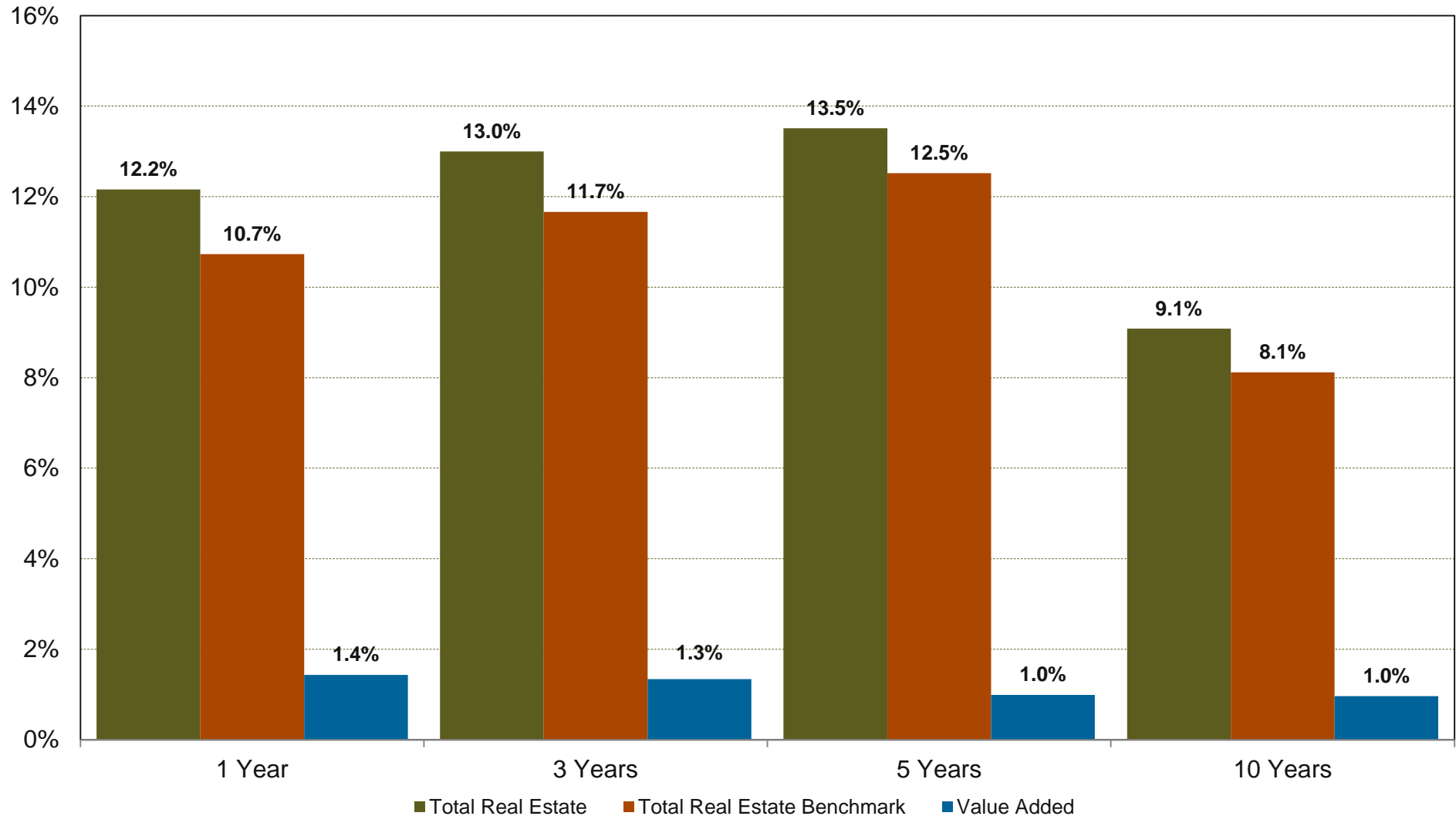
PRIT Private Equity (\$6.7 Billion)

Gross of Fees Performance as of May 31, 2015



PRIT Real Estate (\$6.0 Billion)

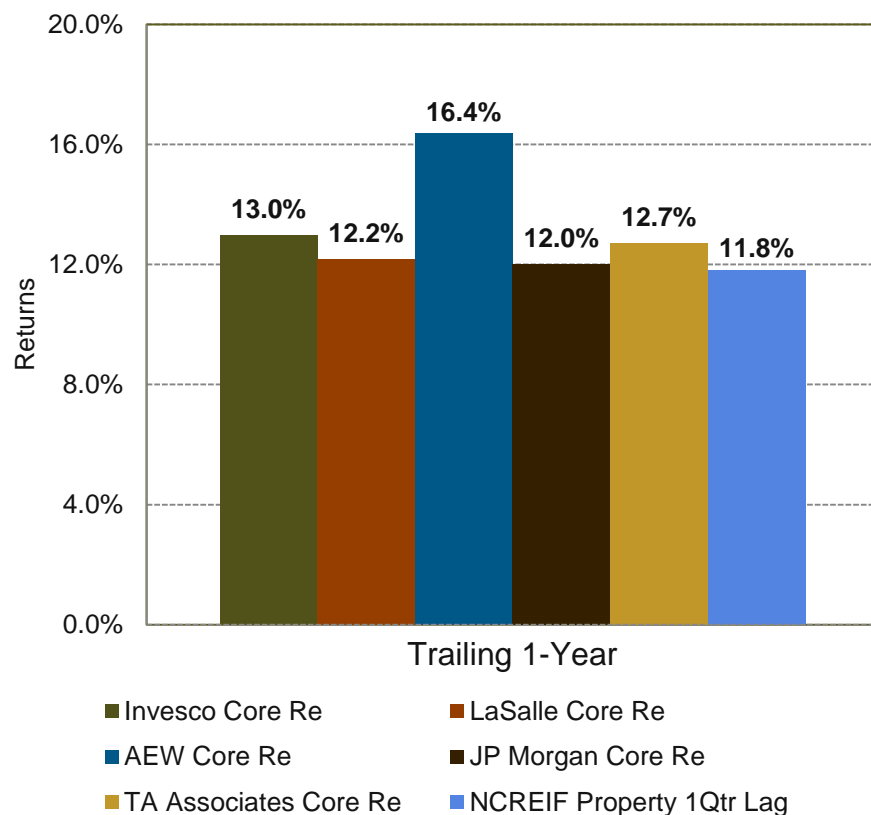
Gross of Fees Performance as of May 31, 2015



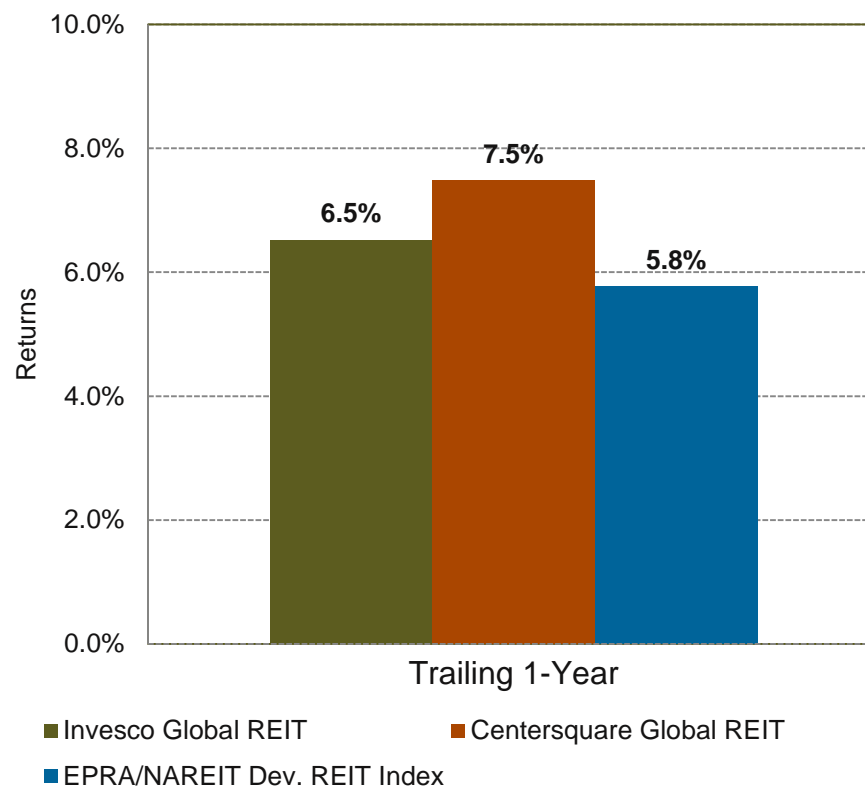
PRIT Real Estate Managers

as of May 31, 2015

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

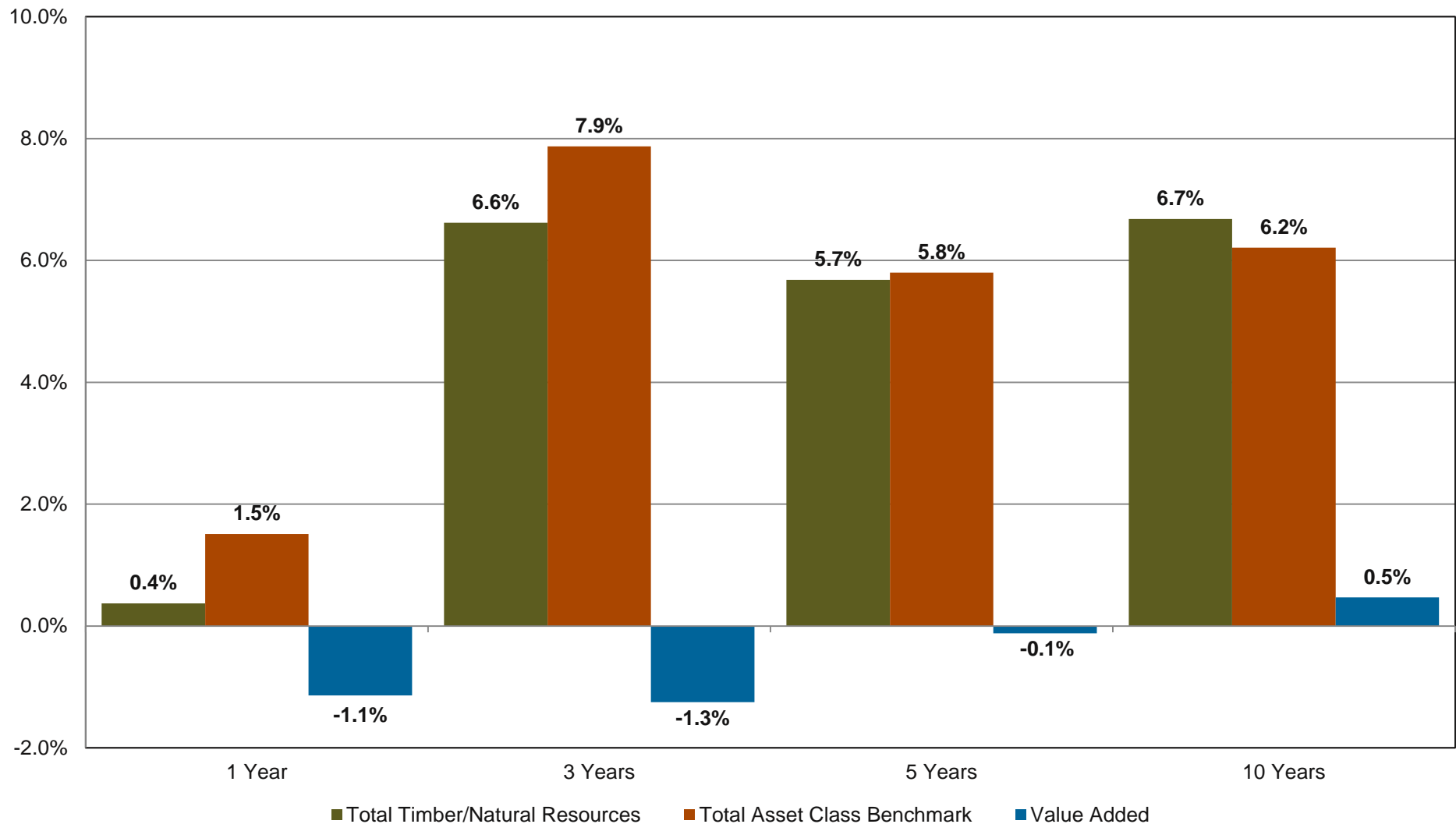


Global REIT Managers vs. EPRA/NAREIT Developed REIT Index



PRIT Timber/Natural Resources (\$2.3 Billion)

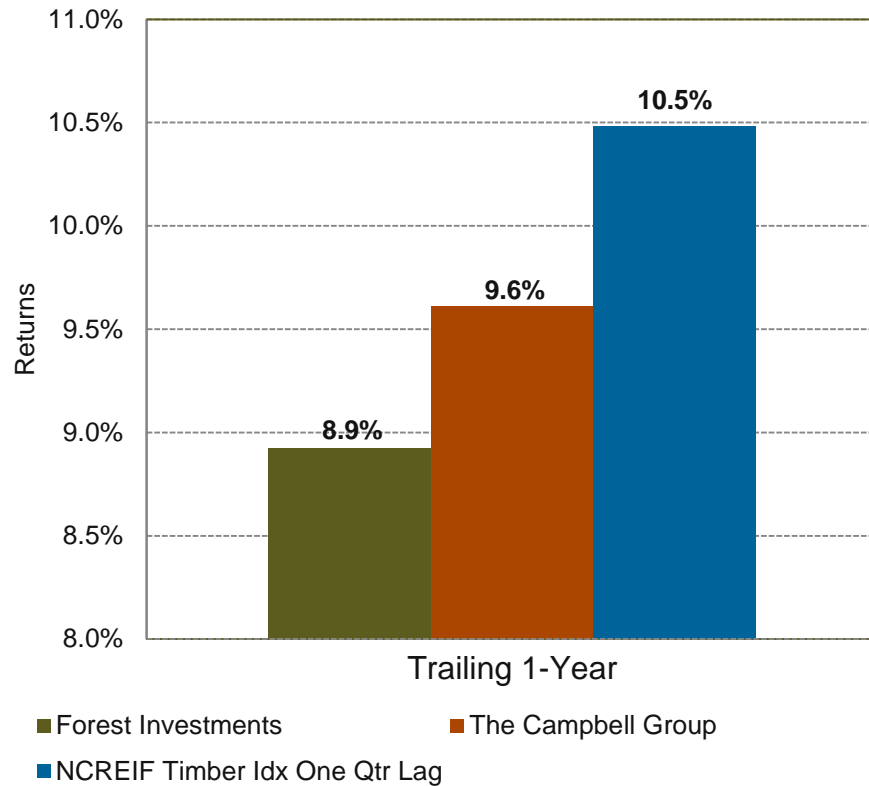
Gross of Fees Performance as of May 31, 2015



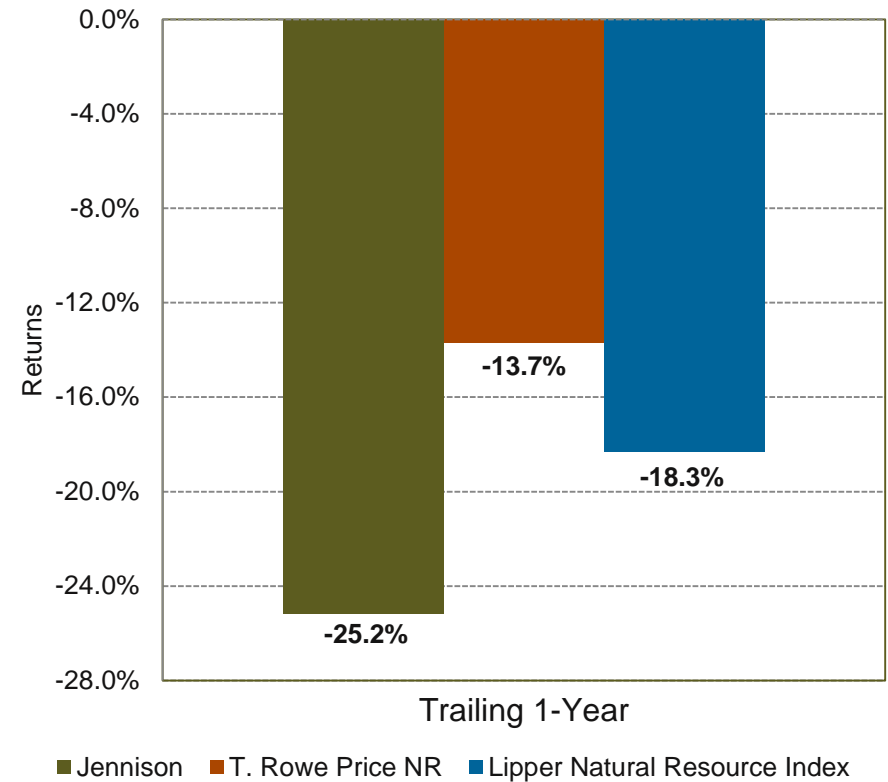
PRIT Timber/Natural Resource Managers

as of May 31, 2015

Timber Managers vs. NCREIF Timber (One Qtr Lag)



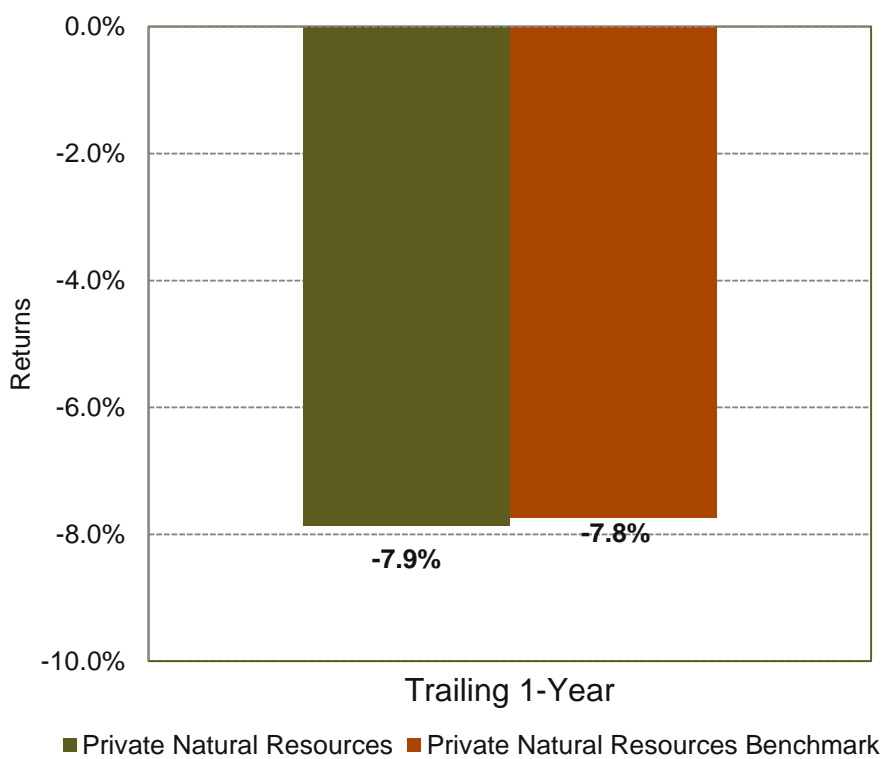
Natural Resources vs. Lipper Natural Resource Index



PRIT Private Natural Resource Managers

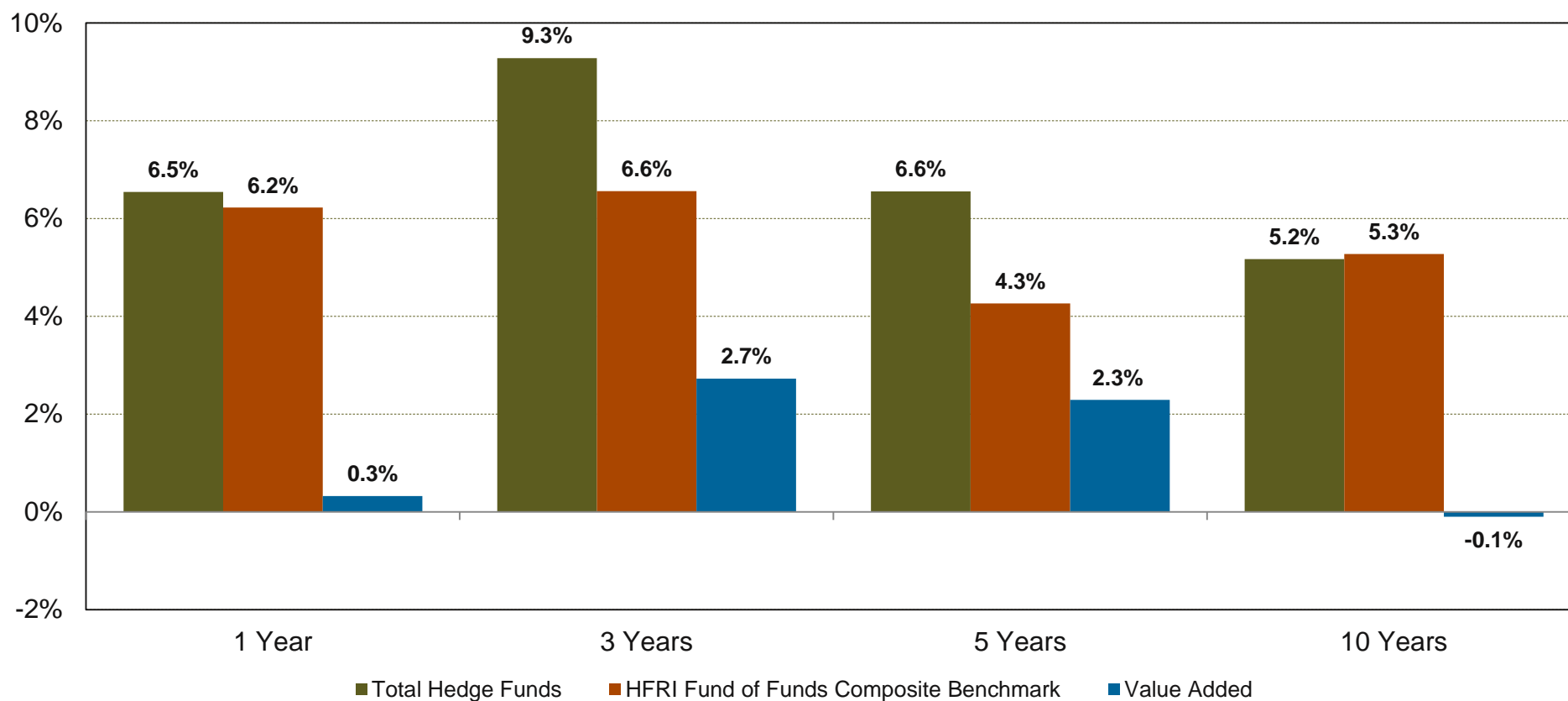
as of May 31, 2015

Private Natural Resources vs. Private Natural Resources Benchmark



PRIT Hedge Funds (\$5.8 Billion)

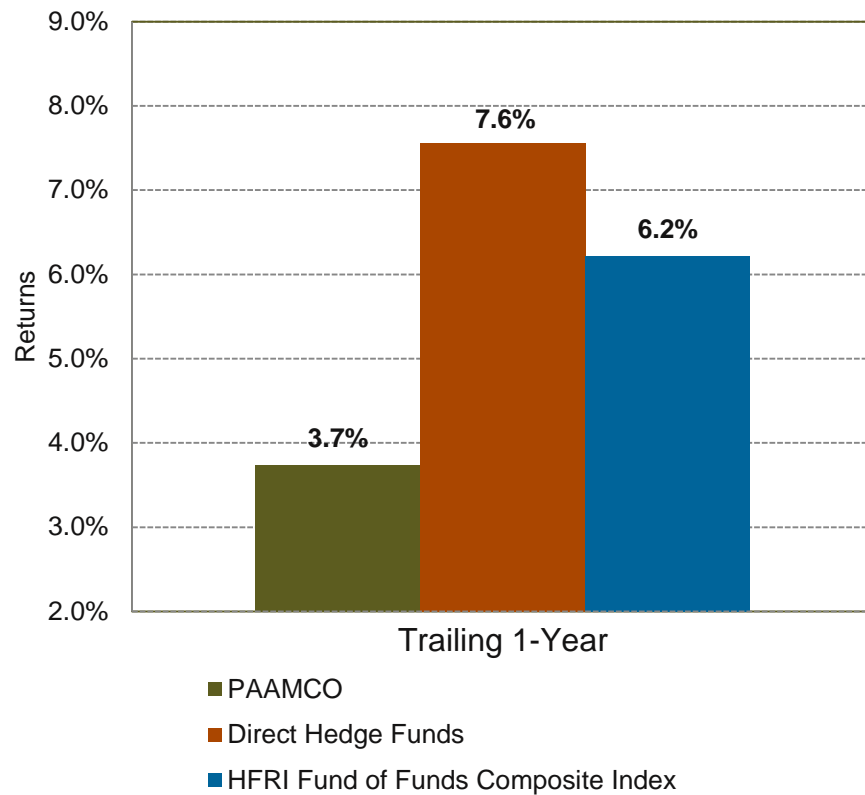
NET of Fees Performance as of May 31, 2015



PRIT Hedge Fund Managers

NET of Fees Performance as of May 31, 2015

Hedge Funds Versus HFRI Fund of Funds Composite Index



(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Appendix C

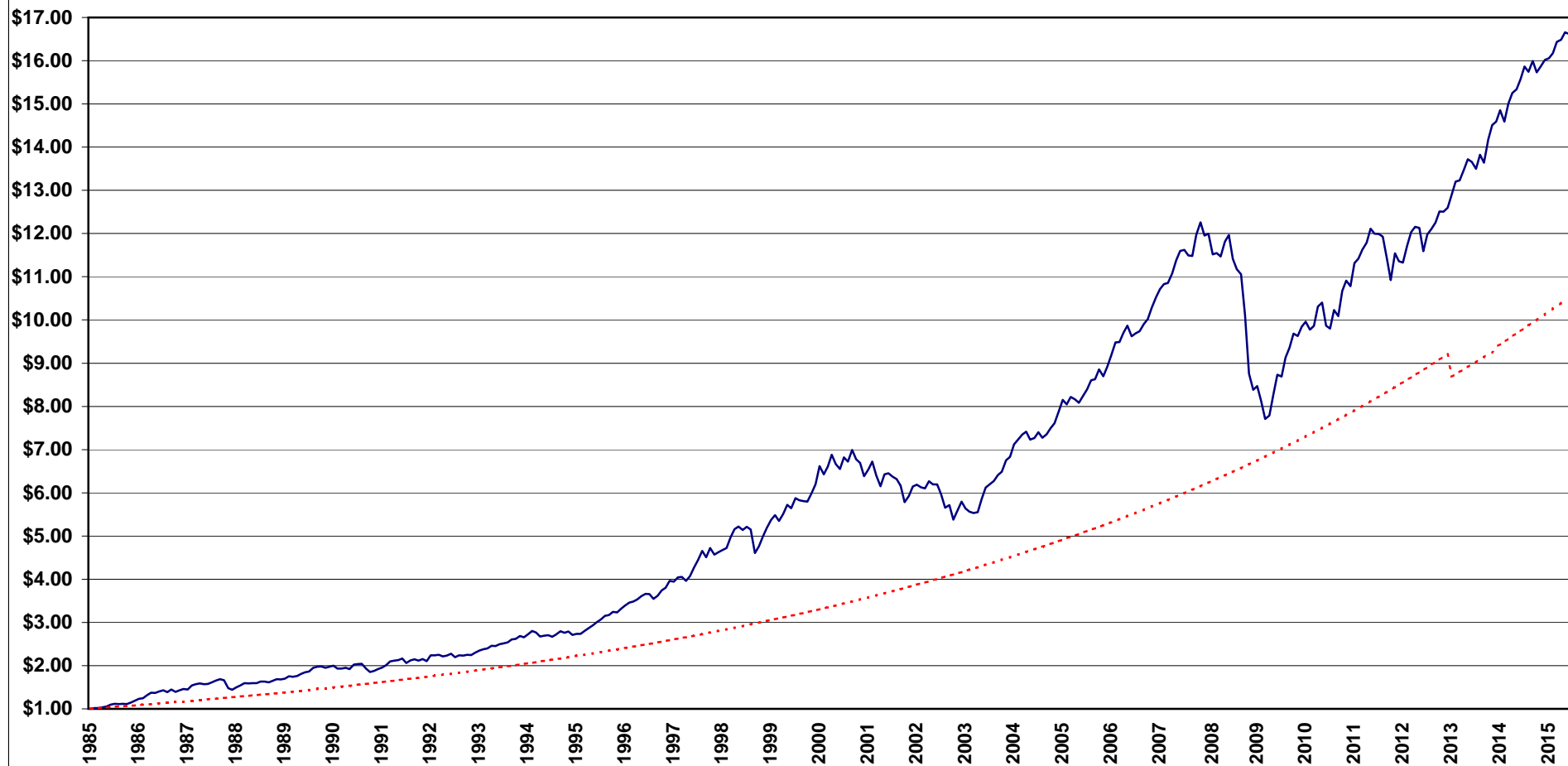
BNY Mellon Gross of Fees Performance Report

*PRIM Investment Committee Meeting
Tuesday, July 21, 2015*

(This page was intentionally left blank.)

Pension Reserves Investment Management Board
Performance Measurement
May 31, 2015

Growth of a Dollar invested in the PRIT Fund
Monthly, December 31, 1984 to May 31, 2015
\$1.00 invested in the PRIT Fund on January 1, 1985 would have grown to \$16.62 by May 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 May 31, 2015

	NAV \$ (M)	Target Allocation %	Actual Allocation %	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
GLOBAL EQUITY	26,665,650	42.8%	43.0%	0.16	3.08	5.86	5.23	16.31	12.46	7.10	5.86
CORE FIXED INCOME	8,692,107	13.0%	14.0%	-1.68	8.60	-0.70	8.74	4.65	5.78	5.18	7.79
VALUE-ADDED FIXED INCOME	5,095,618	10.0%	8.2%	-0.45	-2.14	1.23	-0.59	6.47	7.74	7.93	8.91
PRIVATE EQUITY	6,712,295	10.0%	10.8%	-0.38	9.55	3.60	14.05	19.00	18.03	16.73	14.42
REAL ESTATE	6,010,397	10.0%	9.7%	0.07	10.05	3.37	12.16	13.00	13.51	9.08	6.37
TIMBER/NATURAL RESOURCES	2,349,993	4.0%	3.8%	-1.14	-1.44	-1.18	0.37	6.62	5.68	6.68	8.15
HEDGE FUNDS (NET OF FEES)	5,848,563	10.0%	9.4%	1.03	5.20	4.09	6.54	9.28	6.55	5.17	5.22
PORTFOLIO COMPLETION STRATEGIES	97,219	0.2%	0.2%	-0.53		-2.76					-2.76
PORTABLE ALPHA WIND DOWN (NET OF FEES)	33,105	0.0%	0.1%	-0.14	-1.24	-2.37	-0.64	-1.54	-1.32		-5.36
OVERLAY	465,939	0.0%	0.8%	-0.56	4.03	2.60	5.01				8.14
TOTAL CORE	61,970,887	100%	100%	-0.20	4.79	3.53	6.76	12.83	11.04	7.29	9.63
<i>INTERIM BENCHMARK (target allocation without private equity benchmark) ¹</i>				-0.31	4.19	3.91	6.16	11.90	10.28	7.14	10.16
<i>TOTAL CORE BENCHMARK (target allocation with private equity benchmark) ²</i>				-0.18	4.18	4.01	5.80	10.90	9.31	6.84	10.06
PARTICIPANTS CASH	14,992			0.01	0.12	0.06	0.13	0.14	0.16	1.58	4.03
TEACHERS' AND EMPLOYEES' CASH	37,779			0.01	0.12	0.06	0.13	0.14	0.16	1.32	2.80
TOTAL FUND	62,023,658			-0.20	4.78	3.52	6.74	12.78	11.00	7.27	9.68

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
DOMESTIC EQUITY												
INTECH	909,714	1.5%	2.14	12.68	4.70	14.76	20.59	17.35		8.52	7.98	1/31/2006
PIMCO DOMESTIC	945,929	1.5%	1.40	9.75	3.75	11.91	20.59	17.73		8.51	7.75	2/28/2006
SSGA S&P 500	7,512,709	12.1%	1.31	9.47	3.19	11.79	19.82			18.81	18.68	12/31/2011
CLOSED PORTFOLIOS	2	0.0%										
TOTAL LARGE CAP MANAGERS	9,368,354	15.1%	1.40	9.83	3.39	12.11	19.98	18.54	8.98	7.60	6.91	7/31/1997
S&P 500			1.29	9.54	3.23	11.81	19.67	16.54	8.12			
SUMMIT CREEK	205,228	0.3%	1.45	5.47	3.38	13.33				16.32	19.28	5/31/2013
RUSSELL 2000 GROWTH			3.67	10.85	7.30	17.73						
FRONTIER	181,476	0.3%	0.94	-0.48	1.69	4.57				14.09	11.94	5/31/2013
HUBER	259,461	0.4%	0.64	-11.36	-0.01	-8.11				4.28	11.94	5/31/2013
TOTAL SMALL CAP VALUE	440,936	0.7%	0.76	-7.19	0.68	-3.29				7.87	11.94	5/31/2013
RUSSELL 2000 VALUE			0.83	0.64	0.63	5.10						
RIVERBRIDGE	162,439	0.3%	1.55	7.43	1.89	11.52				13.47	19.54	5/31/2013
RUSSELL 2500 GROWTH			3.08	11.67	8.45	17.55						
SOUTHERNSUN	159,606	0.3%	2.46	-1.14	7.54	2.98				17.60	16.13	5/31/2013
SSGA R2500	1,600,801	2.6%	2.10	6.60	5.41	11.62	20.11			18.59	18.78	12/31/2011
TOTAL SMID CAP CORE	1,760,407	2.8%	2.14	5.85	5.60	10.78	20.18			18.65	18.78	12/31/2011
RUSSELL 2500			2.14	6.66	5.54	11.76	20.36					
TOTAL SMALL/SMID CAP EQUITY	2,569,010	4.1%	1.81	3.42	4.30	8.31	18.96			17.62	18.61	12/31/2011
70.5% RUSSELL 2500/5.5% RUSSELL 2500 GROWTH/6.5% RUSSELL 2000 GROWTH/17.5% RUSSELL 2000 VALUE ³			2.06	6.14	4.94	11.21	20.17					
CLOSED PORTFOLIOS	0	0.0%										
DOMESTIC EQUITY CASH	(771)	0.0%										
TOTAL DOMESTIC EQUITY	11,936,592	19.3%	1.49	8.47	3.60	11.34	19.80	16.41	7.14	10.51	10.76	2/28/1985
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 VALUE ⁴			1.45	8.87	3.60	11.72	19.80	16.45	8.01			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
INTERNATIONAL EQUITY												
SSGA WORLD EX-US	5,291,456	8.5%	-0.64	-1.93	7.94	-0.35	15.50	10.02	6.17	6.44	5.96	3/31/1992
<i>CUSTOM MSCI WORLD EX-US IMI NET DIVS ⁵</i>			-0.74	-2.57	7.62	-1.08	14.79	9.45	5.54			
MARATHON ASSET MANAGEMENT	2,519,147	4.1%	0.97	2.13	11.71	3.16	18.20	12.56	9.17	9.14	5.01	10/31/1996
BAILLIE GIFFORD	1,861,850	3.0%	-0.28	1.19	9.99	1.60	15.97	11.86	7.97	8.74	6.56	8/31/2004
MONDRIAN INVESTMENT	817,907	1.3%	-0.79	-0.78	8.54	0.81	16.89	10.94		1.82	1.11	6/30/2008
FIS	111,053	0.2%	0.33	-0.10	9.68	0.89				6.97	5.36	10/31/2013
SSGA TRANSITION INTERNATIONAL EQUITY	-	0.0%										
CLOSED PORTFOLIOS	16	0.0%										
INTERNATIONAL EQUITY CASH	1,158	0.0%										
<i>CUSTOM MSCI EAFE STANDARD INDEX NET DIVS ⁶</i>			-0.58	-1.48	8.50	-0.54	15.74	9.88	5.55			
TOTAL INTERNATIONAL EQUITY	10,602,587	17.1%	-0.19	-0.29	9.28	0.94	16.34	11.09	6.67	8.30	6.77	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>												
			-0.66	-1.86	8.06	-0.36	15.07	9.61	5.62			
EMERGING MARKETS EQUITY												
SSGA EMERGING MKTS	1,068,951	1.7%	-3.42	-0.88	6.83	1.76	7.08	4.85		2.83	2.51	5/31/2010
<i>CUSTOM MSCI EM IMI NET DIVS ⁸</i>			-3.32	-0.99	6.68	1.46	6.88	4.50				
AQR EMERGING	499,308	0.8%	-4.31							1.50	1.91	3/31/2015
BAILLIE GIFFORD EMM	581,037	0.9%	-1.04							0.87	1.91	3/31/2015
DRIEHAUS CAPITAL	599,709	1.0%	-1.45							2.78	1.91	3/31/2015
HARDING LOEVNER	379,146	0.6%	-2.61							0.34	1.91	3/31/2015
PZENA INV	526,361	0.8%	-3.64							3.84	1.91	3/31/2015
EMERGING MARKETS TRANSITION	83,529	0.1%										
TOTAL EMERGING MARKETS CORE	2,669,091	4.3%	-2.58	-5.42	2.82	-2.73	5.45	3.54	7.48	9.69	5.59	2/28/1990
<i>CUSTOM MSCI EM STANDARD INDEX NET DIVS ⁹</i>			-3.93	-1.93	5.63	0.61	6.30	4.22	8.90			
CLOSED PORTFOLIOS	43	0.0%										
EMERGING MARKETS CASH	101	0.0%										
ACADIAN	152,146	0.2%	-1.40	6.55	11.29	8.98	22.29			17.95	7.14	5/31/2012
WASATCH	109,077	0.2%	0.63	4.78	7.20	6.29	8.86			4.79	7.14	5/31/2012
TOTAL EMERGING MARKETS SMALL CAP	261,223	0.4%	-0.56	5.49	9.54	7.35	13.29			9.11	7.14	5/31/2012
<i>CUSTOM MSCI EM SMALL CAP NET DIVS ¹⁰</i>			0.46	5.17	13.47	7.07	10.76					
ACADIAN FRONTIER	25,479	0.0%	-0.06							5.33	0.37	4/30/2015
CITY OF LONDON	101,584	0.2%	-1.12							2.90	2.28	2/28/2015
TOTAL FRONTIER	127,063	0.2%	-0.91							3.17	2.28	2/28/2015
<i>CUSTOM MSCI FRONTIER MKTS COUNTRY CAPPED INDEX NET DIVS</i>			-3.37									
TOTAL EMERGING MARKETS	4,126,471	6.7%	-2.62	-3.16	4.52	-0.56	6.49	4.61	7.93	9.87	5.63	2/28/1990
<i>ASSET CLASS BENCHMARK ¹¹</i>												
			-3.45	-1.25	6.40	1.20	6.79	4.45	9.00			
TOTAL GLOBAL EQUITY ¹²	26,665,650	43.0%	0.16	3.08	5.86	5.23	16.31	12.46	7.10	5.86	4.88	1/31/2001
<i>ASSET CLASS BENCHMARK: 44% DOMESTIC EQUITY BM/40% INTERNATIONAL EQUITY BM/16% EMERGING MARKETS BM ¹³</i>												
			-0.18	2.99	5.89	5.22	15.87	11.83	6.80			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
DOMESTIC INVESTMENT GRADE FIXED INCOME												
BLACKROCK PASSIVE	514,412	0.8%	-0.26	2.94	0.93	3.02	2.23	3.96	4.69	5.71	5.72	6/30/1995
PIMCO CORE	793,649	1.3%	-0.07	3.04	1.03	3.07	3.05	4.33	5.44	7.40	6.48	9/30/1990
LOOMIS SAYLES CORE	1,131,036	1.8%	-0.14	4.01	1.66	4.23	4.12	5.47	5.46	7.57	6.59	5/31/1990
COMMUNITY CAPITAL MANAGEMENT	27,798	0.0%	-0.02	2.92	1.23	3.01	2.33	3.54		5.00	5.22	7/31/2006
AFL - CIO HOUSING INVESTMENT	125,652	0.2%	-0.04	3.35	1.41	3.67	2.38	4.05		5.26	5.05	8/31/2007
ACCESS CAPITAL - ETI	103,269	0.2%	0.12	3.68	1.48	3.92	2.86	3.64	4.54	4.45	4.45	4/30/2004
TOTAL AGGREGATE ¹⁴	2,695,815	4.4%	-0.12	3.49	1.33	3.60	2.95	4.39	4.95	5.83	5.47	7/31/1999
BARCLAYS CAPITAL AGGREGATE			-0.24	2.98	1.00	3.03	2.21	3.90	4.61			
BLACKROCK - STRIPS	4,124,599	6.7%	-3.02	16.29	-3.35	16.46				21.57	21.51	4/30/2014
BC US TREASURY STRIPS 20+ YR INDEX			-3.01	16.41	-3.37	16.31						
CLOSED PORTFOLIOS	1	0.0%										
FIXED INCOME CASH	71	0.0%										
TOTAL DOMESTIC INVESTMENT GRADE FIXED INCOME	6,820,487	11.0%	-1.89	10.03	-1.31	10.16	5.48	6.03	5.80	6.41	5.96	7/31/1999
DOMESTIC INVESTMENT GRADE FIXED INCOME BM ¹⁵			-1.94	9.64	-1.46	9.65	4.79	5.46	5.40			
INFLATION-LINKED FIXED INCOME												
BLACKROCK - TIPS	600,497	1.0%	-0.75	-0.80	1.38	-0.48	-0.62	3.79	4.25	5.65	5.71	4/30/2001
BARCLAYS CAPITAL US TIPS			-0.82	-0.77	1.33	-0.47	-0.62	3.80	4.28			
BLACKROCK ILBs	1,271,123	2.1%	-0.97	5.13	1.78	5.16	2.79	5.07		1.19	0.66	10/31/2005
CLOSED PORTFOLIOS	-	0.0%										
TOTAL ILBs	1,271,123	2.1%	-0.97	5.13	1.78	5.16	2.79	5.07		1.03	0.66	10/31/2005
BC LB US\$ HEDGED ¹⁶			-0.84	5.08	1.52	5.09	2.06	4.73				
TOTAL INFLATION-LINKED FIXED INCOME	1,871,620	3.0%	-0.90	3.15	1.65	3.28	1.65	4.73	1.69	3.80	1.46	4/30/2001
33% BC US TIPS/67% BC ILB US\$ HEDGED ¹⁷			-0.83	3.13	1.46	3.24	1.18	4.43	1.46			
TOTAL CORE FIXED INCOME	8,692,107	14.0%	-1.68	8.60	-0.70	8.74	4.65	5.78	5.18	7.79	7.23	9/30/1985
ASSET CLASS BENCHMARK ¹⁸			-1.70	8.30	-0.85	8.33	4.01	5.27	4.76			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PRIVATE EQUITY												
SPECIAL EQUITY	20,400	0.0%	-0.12	28.25	9.99	28.50	19.64	19.97	15.39	15.08		9/30/1986
SPECIAL EQUITY - 2000	30,001	0.0%	-0.31	26.52	2.85	31.08	24.29	17.20	18.43	15.76		2/29/2000
SPECIAL EQUITY - 2001	61,171	0.1%	-0.20	6.96	9.59	11.92	21.59	16.73	22.66	20.56		4/30/2001
SPECIAL EQUITY - 2002	5,482	0.0%	-1.46	-6.40	-2.70	-2.80	14.45	24.75	22.97	17.48		7/31/2002
SPECIAL EQUITY - 2003	108,850	0.2%	-0.37	8.41	-0.67	8.40	12.41	12.00	17.69	15.98		7/31/2003
SPECIAL EQUITY - 2004	77,502	0.1%	-0.17	7.93	7.10	9.85	20.34	20.93	13.73	12.25		7/31/2004
SPECIAL EQUITY - 2005	456,472	0.7%	-0.45	8.91	2.96	11.89	19.04	18.33	11.52	11.52		6/30/2005
SPECIAL EQUITY - 2006	657,454	1.1%	-0.23	4.79	-0.98	11.23	17.99	17.56		5.02		4/30/2006
SPECIAL EQUITY - 2007	901,219	1.5%	-0.82	1.32	-0.59	3.86	15.97	15.97		6.82		7/31/2007
SPECIAL EQUITY - 2008	882,284	1.4%	-0.51	10.01	2.21	15.12	23.07	20.76		8.57		4/30/2008
SPECIAL EQUITY - 2009	236,910	0.4%	-0.24	19.80	5.72	30.52	22.66	15.72		9.57		8/31/2009
SPECIAL EQUITY - 2010	477,781	0.8%	-0.40	8.43	1.25	13.94	15.97			3.74		1/31/2011
SPECIAL EQUITY - 2011	545,486	0.9%	-0.05	16.52	8.47	20.34	14.43			-29.84		7/31/2011
SPECIAL EQUITY - 2012	206,125	0.3%	-1.85	-4.17	-2.28	2.63				-17.07		8/31/2012
SPECIAL EQUITY - 2013	131,787	0.2%	-0.17	-3.89	-1.21	4.06				1.66		6/30/2013
SPECIAL EQUITY - 2014	137,645	0.2%	-0.82	-9.57	-2.72	-17.58				-16.34		5/31/2014
SPECIAL EQUITY - 2015	41,347	0.1%	0.00							-2.44		3/31/2015
TOTAL SPECIAL EQUITY	4,977,916	8.0%	-0.48	7.42	1.77	11.85	18.54	17.67	17.43	16.00		9/30/1986
VENTURE CAPITAL	14,471	0.0%	0.00	16.08	9.92	14.23	13.11	12.09	16.25	11.66		4/30/1986
VENTURE CAPITAL - 2000	69,745	0.1%	0.00	-5.00	2.20	-3.10	9.86	11.47	10.85	6.28		2/29/2000
VENTURE CAPITAL - 2001	40,159	0.1%	0.00	6.98	6.11	10.84	12.75	11.19	13.42	12.44		2/28/2001
VENTURE CAPITAL - 2002	14,465	0.0%	0.00	8.05	2.53	10.24	4.23	2.28	0.75	0.16		4/30/2003
VENTURE CAPITAL - 2003	28,464	0.0%	0.00	4.32	3.43	17.79	27.82	19.21	13.52	12.03		2/29/2004
VENTURE CAPITAL - 2004	37,008	0.1%	0.00	-12.30	29.74	-17.96	24.16	42.57	27.34	26.35		2/28/2005
VENTURE CAPITAL - 2005	117,520	0.2%	0.00	27.85	13.30	31.47	20.84	18.68	11.30	10.85		3/31/2005
VENTURE CAPITAL - 2006	145,112	0.2%	-0.12	19.68	9.59	25.49	18.38	19.69		11.57		4/30/2006
VENTURE CAPITAL - 2007	183,529	0.3%	0.02	17.87	2.21	18.25	23.39	26.44		16.07		4/30/2007
VENTURE CAPITAL - 2008	31,031	0.1%	0.00	25.66	4.36	27.08	39.77	34.94		25.02		7/31/2008
VENTURE CAPITAL - 2009	235,721	0.4%	0.00	20.50	9.52	25.82	24.05	18.97		12.09		8/31/2009
VENTURE CAPITAL - 2010	264,526	0.4%	0.00	37.33	29.07	56.71	37.48	19.51		17.60		4/30/2010
VENTURE CAPITAL - 2011	81,570	0.1%	-0.72	12.58	4.00	25.74	17.90			10.02		2/28/2011
VENTURE CAPITAL - 2012	188,173	0.3%	-0.15	19.24	7.68	21.03	9.07			8.81		5/31/2012
VENTURE CAPITAL - 2013	37,989	0.1%	0.00	6.23	5.78	5.78				2.46		6/30/2013
VENTURE CAPITAL - 2014	38,646	0.1%	-0.24	-6.77	-1.62	-8.02				-8.02		6/30/2014
VENTURE CAPITAL - 2015	625	0.0%	0.00							-0.13		3/31/2015
TOTAL VENTURE CAPITAL	1,528,755	2.5%	-0.07	18.02	10.52	23.12	22.63	21.41	16.95	12.94		4/30/1986
PRIVATE EQUITY CASH	205,624	0.3%										
TOTAL PRIVATE EQUITY	6,712,295	10.8%	-0.38	9.55	3.60	14.05	19.00	18.03	16.73	14.42	16.95	4/30/1986
ASSET CLASS BENCHMARK ²⁴			-0.38	9.55	3.60	14.05	19.00	18.03	16.73			
7 YEAR ANNUALIZED RETURN PE ²⁵			0.85	9.95	4.27	11.01	12.73	14.66		14.89	7.59	7/31/2007
7 YEAR ANNUALIZED RUSSELL 3000 +3% ²⁶			0.92	9.83	4.77	10.66	9.17	8.43				

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PRIVATE REAL ESTATE												
CORE												
INVESCO CORE	1,115,352	1.8%	0.34	11.81	1.93	12.97	12.98	14.67	9.17	9.91	9.58	5/31/1995
LASALLE	1,513,153	2.4%	0.43	9.36	3.18	12.16	13.00	14.32	9.33	10.35	9.51	1/31/1995
AEW	958,523	1.5%	0.46	14.26	4.13	16.36	13.21			13.96	11.85	1/31/2011
JP MORGAN	682,322	1.1%	0.19	8.13	3.40	12.00	8.41	13.62	9.05	10.40	8.87	9/30/2000
TA ASSOCIATES	1,088,660	1.8%	0.48	7.75	4.14	12.69	9.88	11.18	8.19	8.78	8.87	9/30/2000
CLOSED PORTFOLIOS	-	0.0%										
TOTAL CORE ACCOUNTS	5,358,010	8.6%	0.40	10.05	3.31	13.22	11.52	13.10	8.63	9.87	9.55	12/31/1994
PORTFOLIO DEBT												
CLOSED PORTFOLIOS	(1,004,113)	-1.6%										
	-	0.0%										
TOTAL SEPARATE ACCOUNTS - LEVERAGED	4,353,897	7.0%	0.44	11.73	3.51	14.23				14.32	10.88	2/28/2013
NON-CORE												
NON-CORE	413,438	0.7%	0.18	11.38	3.74	12.78	14.91			11.39	10.64	1/31/2012
NON-CORE (ETI EXCLUDED)	413,438	0.7%	0.18	11.38	3.74	12.78	14.91			11.39	10.64	1/31/2012
ETI (PARTNERSHIPS)												
CANYON JOHNSON II	5,562	0.0%	0.00	5.51	1.52	7.50	-1.96	-2.72	-4.71	-4.67	8.31	5/31/2005
INTERCONT IV	811	0.0%	0.00	17.53	-5.06	21.71	9.80	8.10		-3.85	8.08	7/31/2005
NEW BOSTON URBAN I	7,329	0.0%	0.00	-1.71	-4.11	0.53	3.22	4.05		-4.74	6.65	12/31/2006
TOTAL ETI ACCOUNTS	13,702	0.0%	0.00	3.95	-2.31	6.37	1.65	1.19	-5.09	-5.04	8.31	5/31/2005
TOTAL NON-CORE	427,140	0.7%	0.18	11.11	3.50	12.55	11.39	6.16	-2.78	-2.76	8.31	5/31/2005
TOTAL PRIVATE REAL ESTATE²⁷	4,781,037	7.7%	0.41	11.74	3.51	14.12	13.24	14.07	9.87	10.87	9.51	11/30/1994
<i>NCREIF PROPERTY ONE QTR LAG</i>												
			0.00	8.83	3.04	11.82	11.11	12.14	8.38			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
PUBLIC REAL ESTATE (REITS)												
INVESCO GLOBAL REIT	274,052	0.4%	-1.38	4.95	1.13	6.52	13.69			10.95	10.43	5/31/2012
CENTERSQUARE GLOBAL REIT	783,095	1.3%	-1.20	5.99	1.87	7.48	13.77			10.97	10.43	5/31/2012
INVESCO TRANSITION	149,527	0.2%	-1.38		1.04					3.06	4.01	8/31/2014
TOTAL GLOBAL REITS	1,206,673	1.9%	-1.27	4.89	1.55	6.32	13.14			10.35	10.43	5/31/2012
FTSE EPRA NAREIT DEVELOPED NET TOTAL RETURN			-1.42	4.36	1.07	5.77	13.18					
CLOSED PORTFOLIOS	27											
REIT CASH	40	0.0%										
TOTAL REITS	1,206,741	1.9%	-1.26	4.92	1.58	6.35	13.15	12.75	6.27	9.92	8.47	6/30/1998
100% FTSE EPRA NAREIT DEVELOPED NET TOTAL RETURN ²⁸			-1.42	4.36	1.07	5.77	13.18	12.86	5.90			
REAL ESTATE LEVERAGE CASH	(66)	0.0%										
CORE REAL ESTATE CASH	22,685	0.0%										
REAL ESTATE TRANSITION	0	0.0%										
TOTAL CORE ACCOUNT	6,010,397	9.7%	0.07	10.05	3.37	12.16	13.00	13.51	9.08	10.62	9.77	12/31/1994
TOTAL REAL ESTATE	6,010,397	9.7%	0.07	10.05	3.37	12.16	13.00	13.51	9.08	6.37	7.89	1/31/1986
ASSET CLASS BENCHMARK: 80% NCREIF PROPERTY ONE QTR LAG/20% FTSE EPRA NAREIT DEVELOPED NET TOTAL RETURN ²⁹			-0.28	8.07	2.68	10.73	11.66	12.52	8.12			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
TIMBER												
FOREST INVESTMENTS	1,132,444	1.8%	0.00	8.53	1.10	8.92	9.51	6.60	7.36	7.69	7.34	1/31/2002
THE CAMPBELL GROUP	539,882	0.9%	-0.89	6.61	-1.02	9.61	7.72			6.42	7.78	11/30/2011
TIMBER CASH	39	0.0%										
TOTAL TIMBER	1,672,364	2.7%	-0.29	7.90	0.41	9.00	9.05	6.37	8.84	9.78	7.34	1/31/2002
<i>NCREIF TIMBER INDEX ONE QTR LAG ³⁰</i>			<i>0.00</i>	<i>8.74</i>	<i>6.02</i>	<i>10.48</i>	<i>9.30</i>	<i>5.78</i>	<i>8.59</i>			
NATURAL RESOURCES - PUBLIC												
JENNISON	197,467	0.3%	-6.72	-30.09	1.32	-25.18	0.75	0.70		-4.64	-6.62	7/31/2008
T. ROWE PRICE NR	202,646	0.3%	-3.80	-17.94	1.52	-13.72	8.15	5.60		-3.30	-6.62	7/31/2008
PUBLIC NATURAL RESOURCES CASH	3	0.0%										
TOTAL NATURAL RESOURCES PUBLIC	400,116	0.6%	-5.27	-24.42	1.42	-19.78	4.23	3.15		-3.92	-6.62	7/31/2008
<i>LIPPER NATURAL RESOURCES GLOBAL FUND INDEX</i>			<i>-4.26</i>	<i>-22.36</i>	<i>2.49</i>	<i>-18.30</i>	<i>3.42</i>	<i>1.66</i>				
NATURAL RESOURCES- PRIVATE												
NATURAL RESOURCES- PRIVATE	277,760	0.4%	0.00	-6.49	-12.29	-7.86	-2.60	6.19		1.96	1.49	8/31/2008
PRIVATE NATURAL RESOURCES CASH	(246)	0.0%										
TOTAL NATURAL RESOURCES PRIVATE	277,513	0.4%	0.00	-6.37	-12.22	-7.75	-2.48	6.37		1.49	1.49	8/31/2008
<i>BENCHMARK - NAT. RES. PRIVATE ³¹</i>			<i>0.00</i>	<i>-6.37</i>	<i>-12.22</i>	<i>-7.75</i>	<i>-2.48</i>	<i>6.37</i>				
TOTAL TIMBER/NATURAL RESOURCES	2,349,993	3.8%	-1.14	-1.44	-1.18	0.37	6.62	5.68	6.68	8.15	5.58	1/31/2002
<i>ASSET CLASS BENCHMARK ³²</i>			<i>-0.70</i>	<i>-0.44</i>	<i>3.04</i>	<i>1.51</i>	<i>7.87</i>	<i>5.80</i>	<i>6.21</i>			

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	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	59,667	0.1%	1.87	2.66	2.70	3.38				7.51		10/31/2012
IVY LIQUIDATION	5,887	0.0%	2.40	14.74	4.66	14.11	7.66	2.98		3.24		3/31/2009
PAAMCO	1,471,838	2.4%	1.02	2.48	4.16	3.74	10.16	6.49	5.76	5.51	5.34	8/31/2004
100% HFRI FUND OF FUNDS COMPOSITE INDEX ³³			1.01	5.17	3.90	6.22	6.56	4.26	5.27			
DIRECT HEDGE FUNDS	4,311,150	7.0%	1.02	6.17	4.09	7.56	9.27			8.15	5.55	11/30/2011
HFRI FUND OF FUNDS COMPOSITE INDEX ³⁴			1.01	5.17	3.90	6.22	6.56					
HEDGE FUND CASH	19	0.0%										
TOTAL HEDGE FUNDS (NET OF FEES)	5,848,563	9.4%	1.03	5.20	4.09	6.54	9.28	6.55	5.17	5.22	5.34	7/31/2004
ASSET CLASS BENCHMARK:												
HFRI FUND OF FUNDS COMPOSITE INDEX ³⁵			1.01	5.17	3.90	6.22	6.56	4.26	5.27			
PORTFOLIO COMPLETION STRATEGIES	97,219	0.2%	-0.53		-2.76					-2.76	1.31	1/31/2015
PORTFOLIO COMPLETION STRATEGIES COMPOSITE INDEX ³⁶			0.26		1.31							

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	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	1,596	0.0%	0.56	1.52	0.42	1.17	-11.66	-11.25		-9.96	-0.39	9/30/2008
CRESTLINE	14,250	0.0%	-0.30	0.80	-3.10	1.42	-0.48	1.21		1.54	0.08	9/30/2006
STRATEGIC	17,226	0.0%	-0.07	-3.44	-1.92	-2.68	0.01	-1.40		-0.59	-0.21	10/31/2006
TOTAL FUND OF FUNDS (NET OF FEES)	33,073	0.1%	-0.14	-1.27	-2.37	-0.67	-1.55	-1.24		-0.21	0.08	9/30/2006
CLOSED PORTFOLIOS	-	0.0%										
PORTABLE ALPHA CASH	33	0.0%										
TOTAL PORTABLE ALPHA WIND DOWN (NET OF FEES)	33,105	0.1%	-0.14	-1.24	-2.37	-0.64	-1.54	-1.32		-5.36	0.08	9/30/2006
ASSET CLASS BENCHMARK: HFRI FUND OF FUNDS COMPOSITE INDEX ³⁷												
			1.01	5.17	3.90	6.22	6.56	4.26				
OVERLAY												
CLIFTON	192,350	0.3%	-0.85	4.77	3.70	6.56				10.26	10.26	10/31/2013
OVERLAY CASH	273,588	0.4%										
TOTAL OVERLAY	465,939	0.8%	-0.56	4.03	2.60	5.01				8.14	8.14	10/31/2013
ASSET CLASS BENCHMARK ³⁸												
			-0.56	4.03	2.60	5.01						

PENSION RESERVES INVESTMENT TRUST SUMMARY OF MANAGER PERFORMANCE RATES OF RETURN (GROSS OF FEES) Periods Ending May 31, 2015												
	NAV \$ (M)	%	Month	FY '15	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Manager ITD	Manager Benchmark - ITD	Inception Month
TOTAL CORE	61,970,887	99.9%	-0.20	4.79	3.53	6.76	12.83	11.04	7.29	9.63		2/28/1985
CASH FUND												
PARTICIPANTS' CASH (NET OF FEES)	14,992	0.0%	0.01	0.12	0.06	0.13	0.14	0.16	1.58	4.03	3.86	7/31/1985
MERRILL LYNCH 90 DAY T BILL			0.00	0.02	0.01	0.03	0.07	0.08	1.44			
MASS STATE TEACHERS CASH (NET OF FEES)	16,760	0.0%	0.01	0.12	0.06	0.13	0.14	0.16	1.32	2.63	2.64	7/31/1996
MASS STATE EMPLOYEES CASH (NET OF FEES)	21,020	0.0%	0.01	0.12	0.06	0.13	0.14	0.16	1.33	2.63	2.64	7/31/1996
MERRILL LYNCH 90 DAY T BILL ³⁹			0.00	0.02	0.01	0.03	0.07	0.08	1.58			
TEACHERS' AND EMPLOYEES' CASH	37,779	0.1%	0.01	0.12	0.06	0.13	0.14	0.16	1.32	2.80		7/31/1996
TOTAL FUND	62,023,658	100.0%	-0.20	4.78	3.52	6.74	12.78	11.00	7.27	9.68		1/31/1985
POLICY RETURN ⁴⁰			-0.06	4.82	3.59	6.42	12.10	10.67	7.54	9.77		
TOTAL CORE BENCHMARK			-0.18	4.18	4.01	5.80	10.90	9.31	6.84	10.06		

PENSION RESERVES INVESTMENT TRUST
FOOTNOTES
RATES OF RETURN
Periods Ending May 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 May 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 May 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 Net Total Return 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
Tuesday, July 21, 2015*

(This page was intentionally left blank.)

May 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.

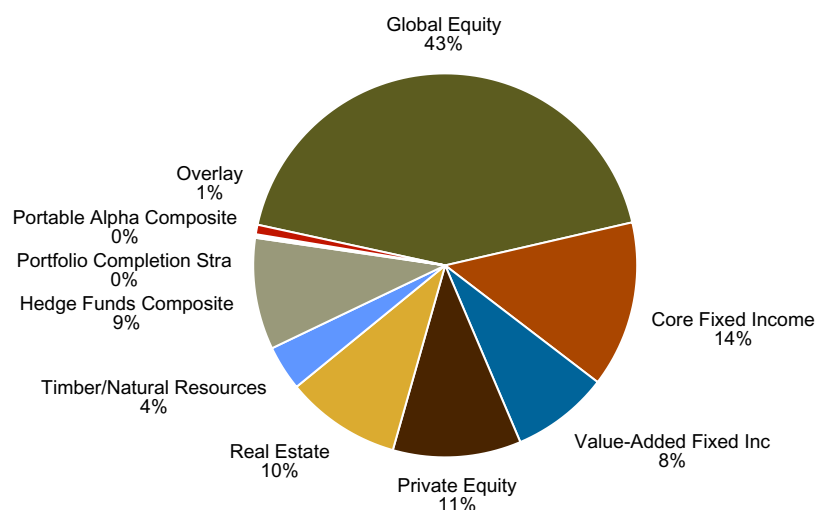
Table of Contents
Massachusetts Pension Reserves Investment Management Board
May 31, 2015

Actual vs Target Asset Allocation	1
Monthly Total Fund Attribution	2
Cumulative Total Fund Attribution	3
Total Fund	10
Global Equity	14
Core Fixed Income	16
Value-Added Fixed Income	18
Private Equity	20
Real Estate	22
Timber/Natural Resources	24
Portfolio Completion Strategy	26
Hedge Funds	28
Portable Alpha Wind Down	30
Total Overlay	32

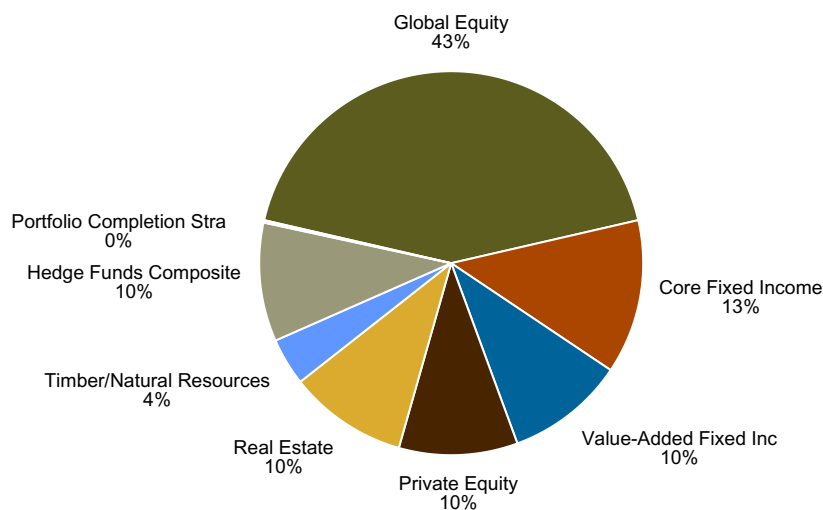
Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of May 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



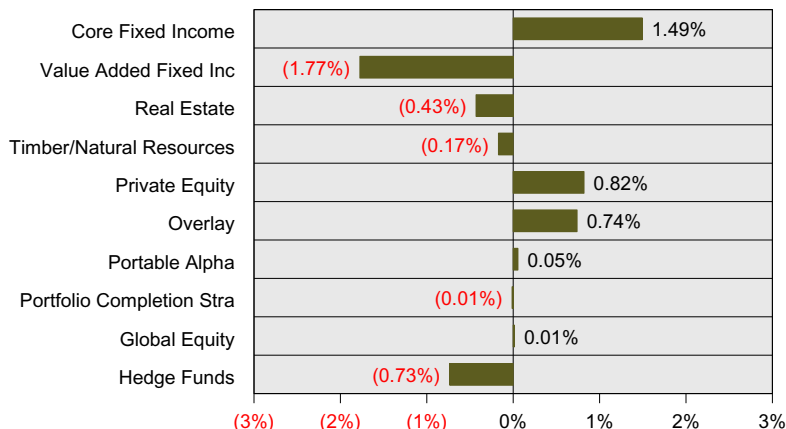
Asset Class	\$000s Actual	Percent Actual	Percent Target	Percent Difference	\$000s Difference
Global Equity	26,665,650	43.0%	42.8%	0.2%	142,111
Core Fixed Income	8,692,107	14.0%	13.0%	1.0%	635,891
Value-Added Fixed Inc	5,095,618	8.2%	10.0%	(1.8%)	(1,101,471)
Private Equity	6,712,295	10.8%	10.0%	0.8%	515,207
Real Estate	6,010,397	9.7%	10.0%	(0.3%)	(186,692)
Timber/Natural Resources	2,349,993	3.8%	4.0%	(0.2%)	(128,842)
Hedge Funds Composite	5,848,563	9.4%	10.0%	(0.6%)	(348,526)
Portfolio Completion Stra	97,219	0.2%	0.2%	0.0%	(26,723)
Portable Alpha Composite	33,105	0.1%	0.0%	0.1%	33,105
Overlay	465,939	0.8%	0.0%	0.8%	465,939
Total	61,970,887	100.0%	100.0%		

*Current Month Target Performance is calculated using monthly rebalancing.

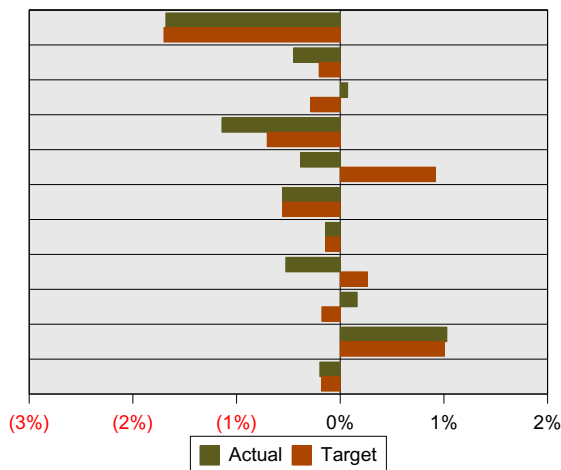
Monthly Total Fund Relative Attribution - May 31, 2015

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.

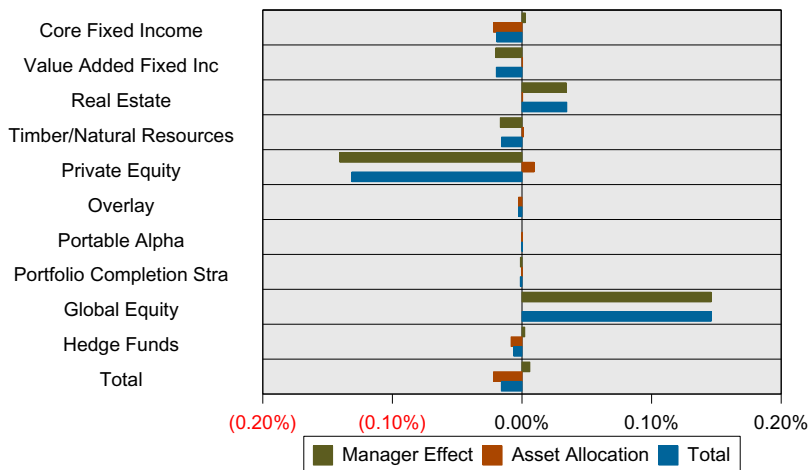
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended May 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%	(1.68%)	(1.70%)	0.00%	(0.02%)	(0.02%)
Value Added Fixed Inc	8%	10%	(0.45%)	(0.20%)	(0.02%)	0.00%	(0.02%)
Real Estate	10%	10%	0.07%	(0.28%)	0.03%	0.00%	0.03%
Timber/Natural Resources	4%	4%	(1.14%)	(0.70%)	(0.02%)	0.00%	(0.02%)
Private Equity	11%	10%	(0.38%)	0.92%	(0.14%)	0.01%	(0.13%)
Overlay	1%	0%	(0.56%)	(0.56%)	0.00%	(0.00%)	(0.00%)
Portable Alpha	0%	0%	(0.14%)	(0.14%)	0.00%	0.00%	0.00%
Portfolio Completion Stra	0%	0%	(0.53%)	0.26%	(0.00%)	(0.00%)	(0.00%)
Global Equity	43%	43%	0.16%	(0.18%)	0.15%	0.00%	0.15%
Hedge Funds	9%	10%	1.03%	1.01%	0.00%	(0.01%)	(0.01%)

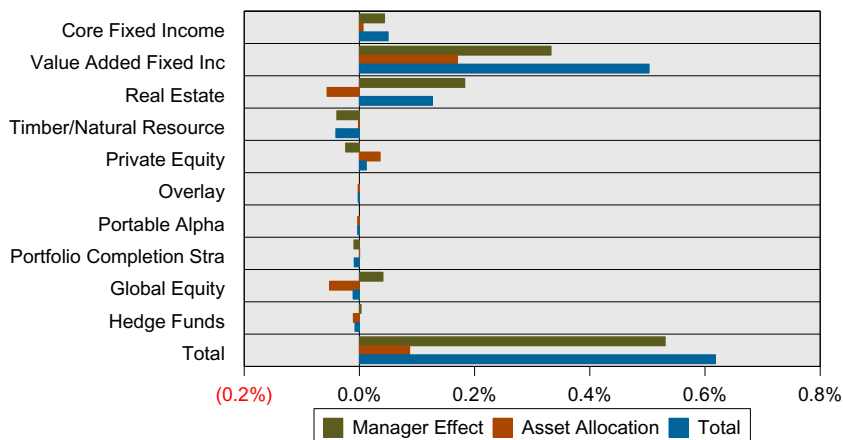
Total (0.20%) = (0.18%) + 0.01% + (0.02%) (0.02%)

* 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.

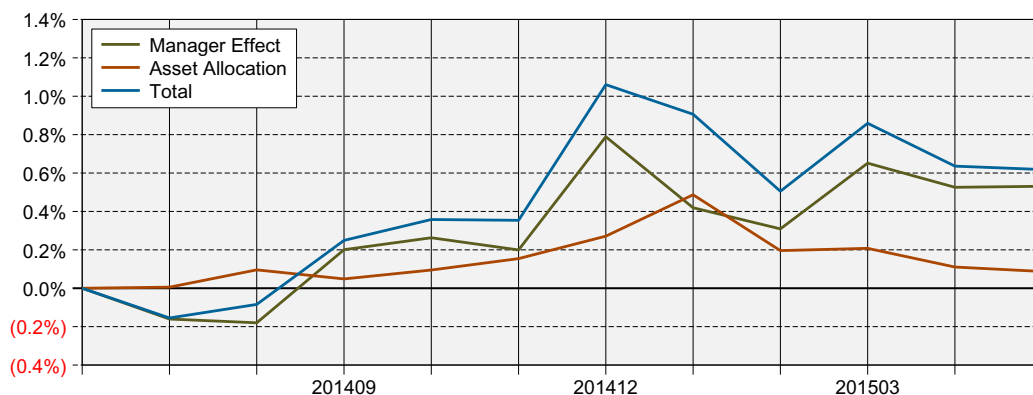
Cumulative Total Fund Relative Attribution - May 31, 2015

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.

Eleven Months Relative Attribution Effects



Cumulative Relative Attribution Effects



Eleven Months Relative Attribution Effects

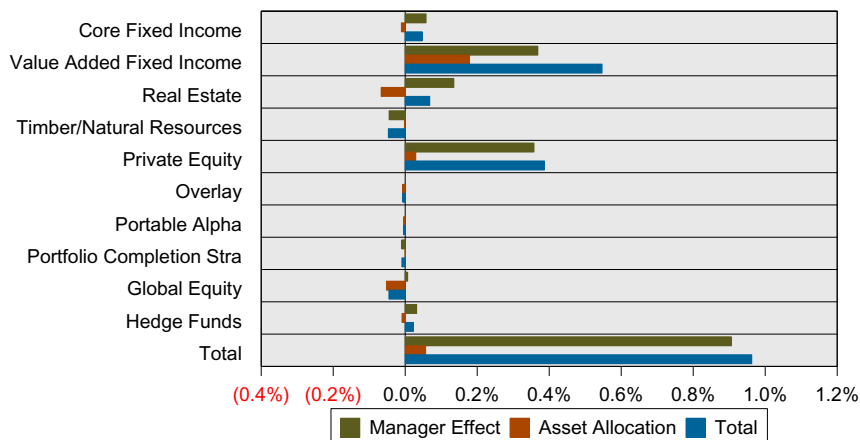
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Core Fixed Income	15%	13%	8.60%	8.30%	0.04%	0.01%	0.05%
Value Added Fixed Inc	8%	10%	(2.14%)	(5.75%)	0.33%	0.17%	0.50%
Real Estate	9%	10%	10.05%	8.07%	0.18%	(0.06%)	0.13%
Timber/Natural Resource	4%	4%	(1.44%)	(0.44%)	(0.04%)	(0.00%)	(0.04%)
Private Equity	11%	10%	9.55%	9.83%	(0.02%)	0.04%	0.01%
Overlay	1%	0%	4.03%	4.03%	0.00%	(0.00%)	(0.00%)
Portable Alpha	0%	0%	(1.24%)	(1.24%)	0.00%	(0.00%)	(0.00%)
Portfolio Completion Stra	0%	0%	-	-	(0.01%)	0.00%	(0.01%)
Global Equity	42%	43%	3.08%	2.99%	0.04%	(0.05%)	(0.01%)
Hedge Funds	9%	10%	5.20%	5.16%	0.00%	(0.01%)	(0.01%)
Total			4.79%	4.18%	+ 0.53%	+ 0.09%	0.62%

* 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.

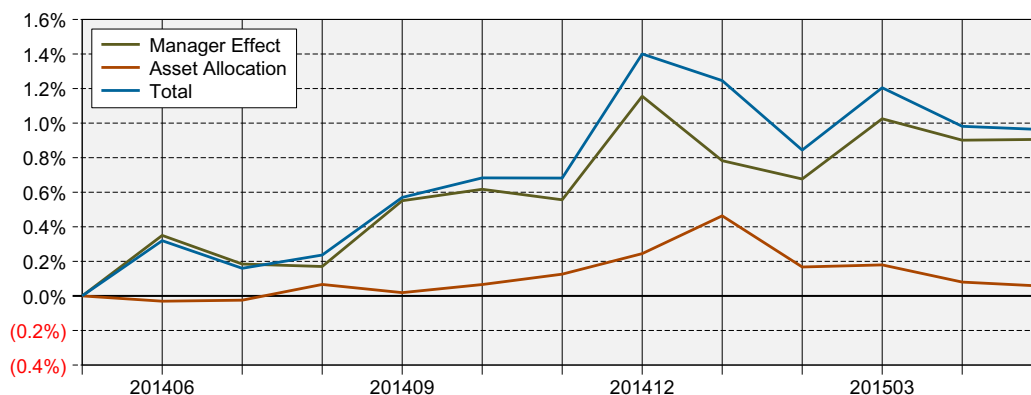
Cumulative Total Fund Relative Attribution - May 31, 2015

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

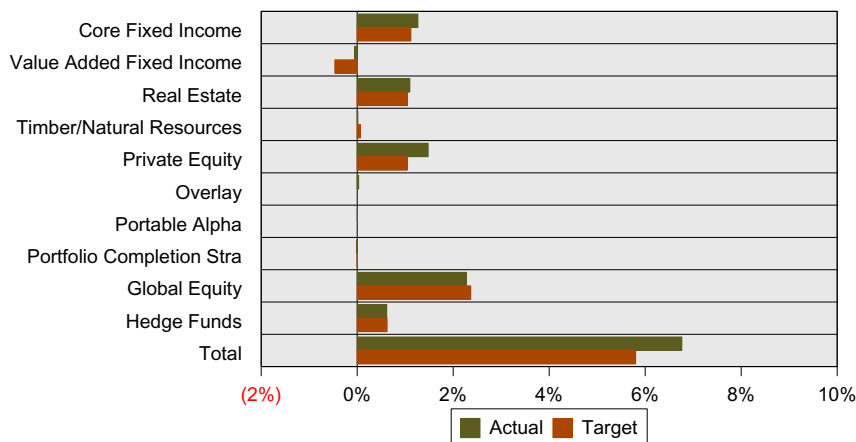
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Core Fixed Income	15%	13%	8.74%	8.33%	0.06%	(0.01%)	0.05%
Value Added Fixed Income	8%	10%	(0.59%)	(4.58%)	0.37%	0.18%	0.55%
Real Estate	9%	10%	12.16%	10.73%	0.14%	(0.07%)	0.07%
Timber/Natural Resources	4%	4%	0.37%	1.51%	(0.04%)	(0.00%)	(0.05%)
Private Equity	11%	10%	14.05%	10.66%	0.36%	0.03%	0.39%
Overlay	1%	0%	5.01%	5.01%	0.00%	(0.01%)	(0.01%)
Portable Alpha	0%	0%	(0.64%)	(0.64%)	0.00%	(0.00%)	(0.00%)
Portfolio Completion Stra	0%	0%	-	-	(0.01%)	0.00%	(0.01%)
Global Equity	42%	43%	5.23%	5.22%	0.01%	(0.05%)	(0.05%)
Hedge Funds	9%	10%	6.54%	6.20%	0.03%	(0.01%)	0.02%
Total			6.76%	5.80%	+ 0.91%	+ 0.06%	0.96%

* 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.

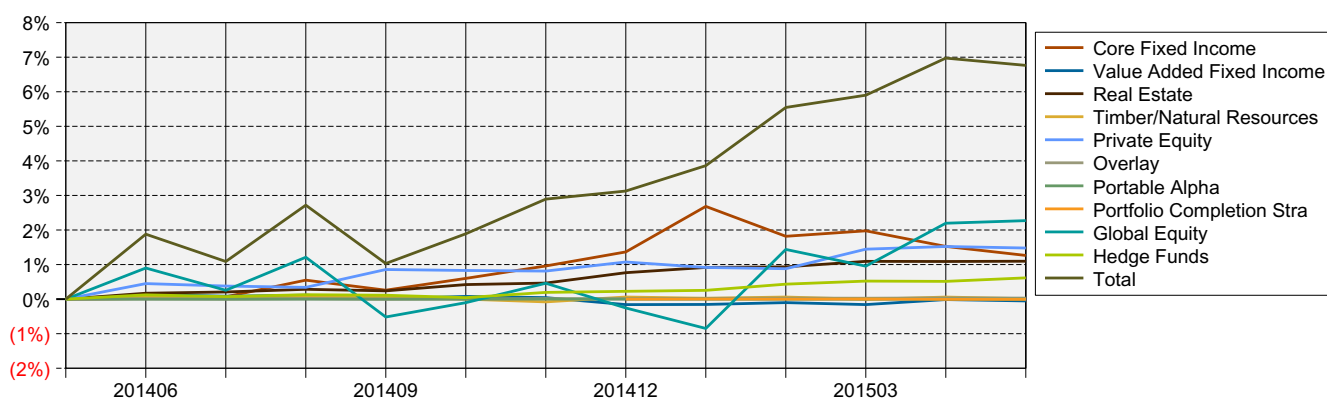
Cumulative Total Fund Absolute Attribution - May 31, 2015

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%	8.74%	1.26%	13%	8.33%	1.12%	0.15%
Value Added Fixed Income	8%	(0.59%)	(0.05%)	10%	(4.58%)	(0.47%)	0.41%
Real Estate	9%	12.16%	1.10%	10%	10.73%	1.05%	0.05%
Timber/Natural Resources	4%	0.37%	0.01%	4%	1.51%	0.07%	(0.05%)
Private Equity	11%	14.05%	1.48%	10%	10.66%	1.04%	0.44%
Overlay	1%	5.01%	0.03%	0%	5.01%	0.00%	0.03%
Portable Alpha	0%	(0.64%)	(0.00%)	0%	(0.64%)	0.00%	(0.00%)
Portfolio Completion Stra	0%	-	(0.01%)	0%	-	0.00%	(0.01%)
Global Equity	42%	5.23%	2.27%	43%	5.22%	2.37%	(0.09%)
Hedge Funds	9%	6.54%	0.61%	10%	6.20%	0.62%	(0.01%)

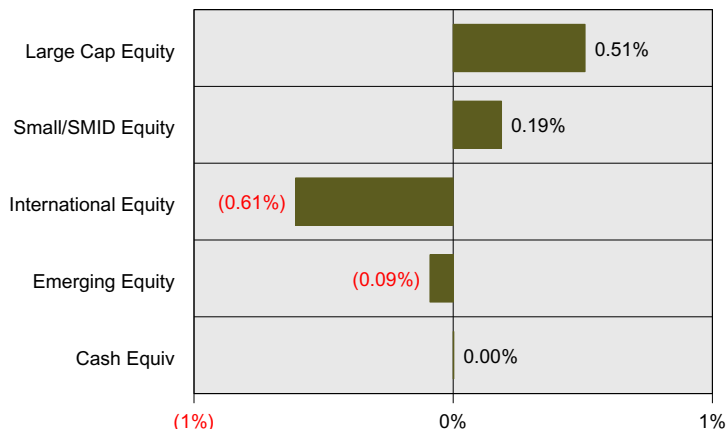
Total Fund Return	6.76%	Target Return	5.80%	0.96%
--------------------------	--------------	----------------------	--------------	--------------

* 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.

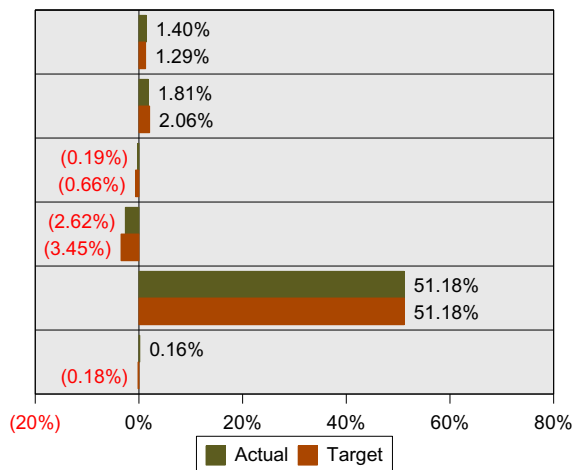
Monthly Total Fund Relative Attribution - May 31, 2015

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.

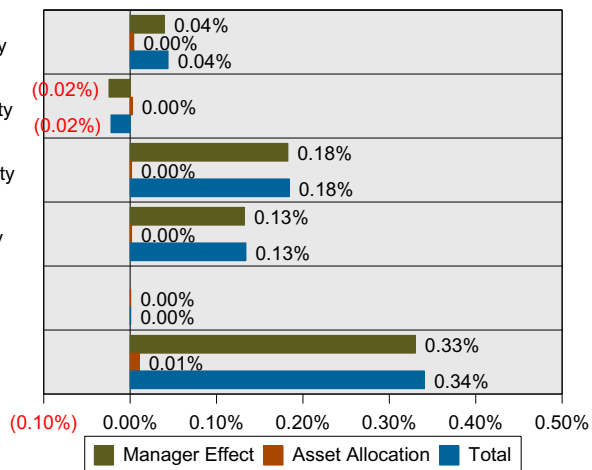
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended May 31, 2015

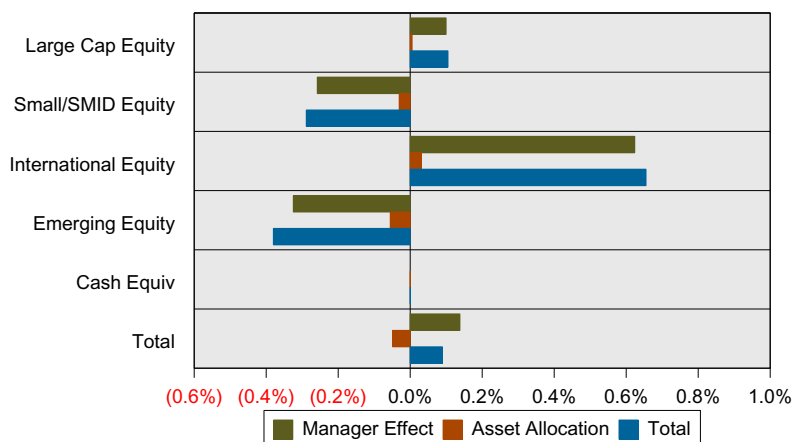
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	35%	35%	1.40%	1.29%	0.04%	0.00%	0.04%
Small/SMID Equity	9%	9%	1.81%	2.06%	(0.02%)	0.00%	(0.02%)
International Equity	39%	40%	(0.19%)	(0.66%)	0.18%	0.00%	0.18%
Emerging Equity	16%	16%	(2.62%)	(3.45%)	0.13%	0.00%	0.13%
Cash Equiv	0%	0%	51.18%	51.18%	0.00%	0.00%	0.00%
Total			0.16%		(0.18%)	+ 0.33%	+ 0.01%
							0.34%

* 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.

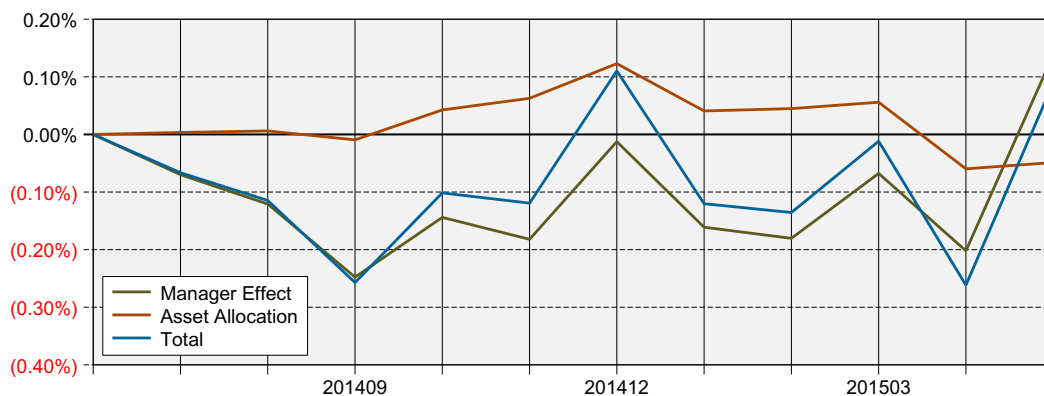
Cumulative Total Fund Relative Attribution - May 31, 2015

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.

Eleven Months Relative Attribution Effects



Cumulative Relative Attribution Effects



Eleven Months Relative Attribution Effects

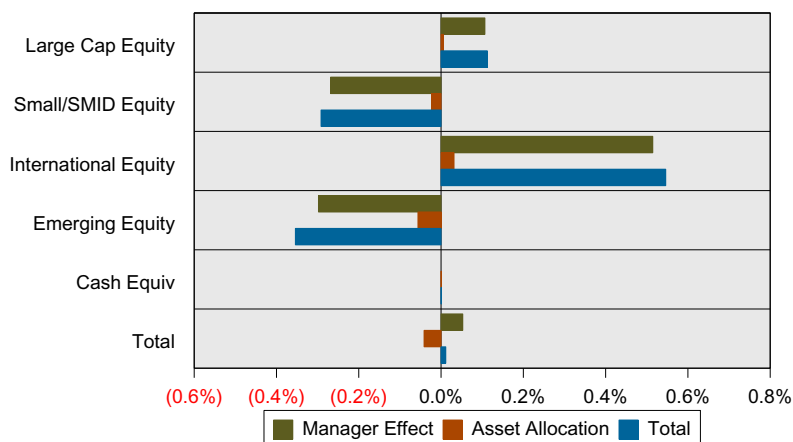
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	36%	35%	9.83%	9.54%	0.10%	0.01%	0.10%
Small/SMID Equity	10%	9%	3.42%	6.14%	(0.26%)	(0.03%)	(0.29%)
International Equity	39%	40%	(0.29%)	(1.86%)	0.62%	0.03%	0.66%
Emerging Equity	16%	16%	(3.16%)	(1.25%)	(0.32%)	(0.06%)	(0.38%)
Cash Equiv	0%	0%	-	-	0.00%	0.00%	0.00%
Total			3.08%	2.99%	+ 0.14%	+ (0.05%)	0.09%

* 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.

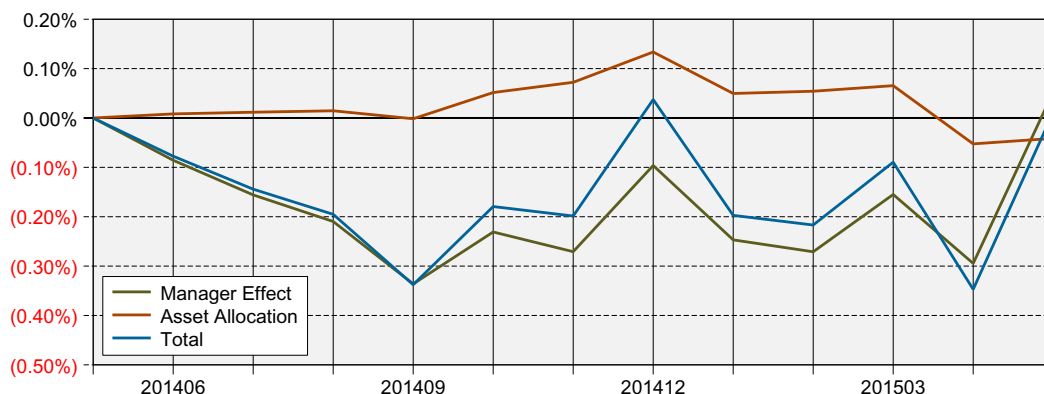
Cumulative Total Fund Relative Attribution - May 31, 2015

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

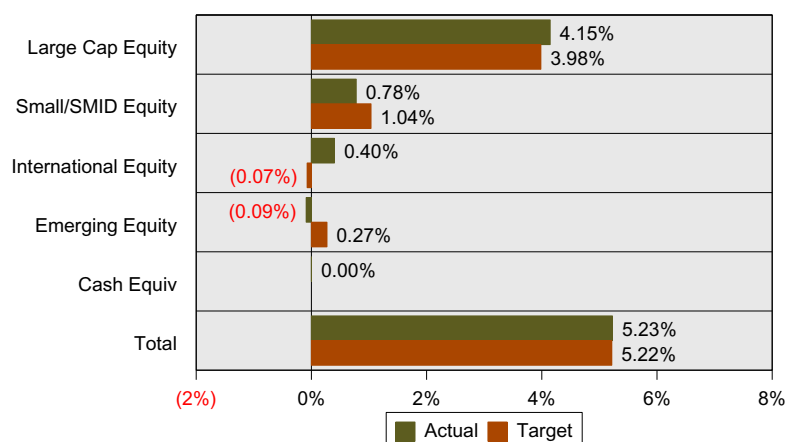
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	36%	35%	12.11%	11.81%	0.11%	0.01%	0.11%
Small/SMID Equity	10%	9%	8.31%	11.21%	(0.27%)	(0.02%)	(0.29%)
International Equity	39%	40%	0.94%	(0.36%)	0.51%	0.03%	0.55%
Emerging Equity	16%	16%	(0.56%)	1.20%	(0.30%)	(0.06%)	(0.35%)
Cash Equiv	0%	0%	-	-	0.00%	0.00%	0.00%
Total			5.23%	5.22%	+ 0.05%	+ (0.04%)	0.01%

* 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.

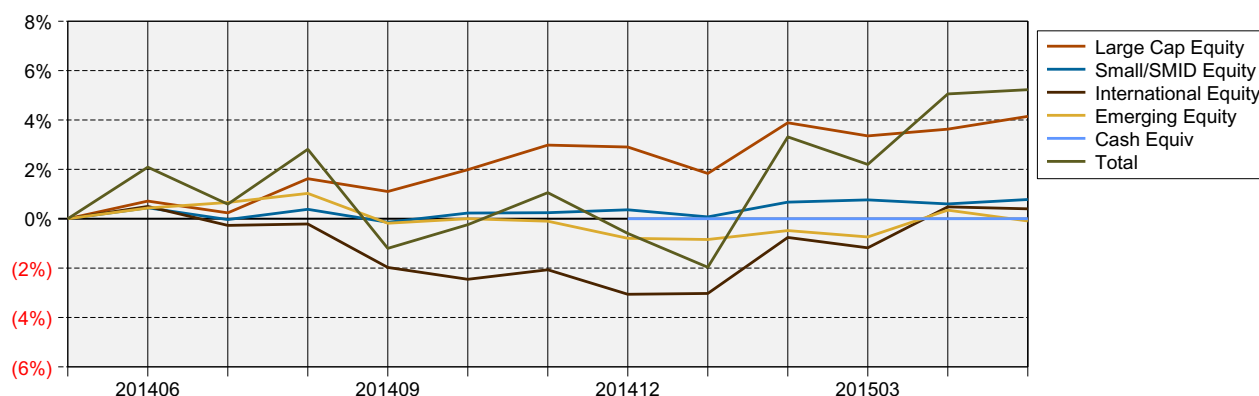
Cumulative Total Fund Absolute Attribution - May 31, 2015

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%	12.11%	4.15%	35%	11.81%	3.98%	0.16%
Small/SMID Equity	10%	8.31%	0.78%	9%	11.21%	1.04%	(0.26%)
International Equity	39%	0.94%	0.40%	40%	(0.36%)	(0.07%)	0.47%
Emerging Equity	16%	(0.56%)	(0.09%)	16%	1.20%	0.27%	(0.36%)
Cash Equiv	0%	-	0.00%	0%	-	0.00%	0.00%
Total Fund Return			5.23%	Target Return			5.22%
							0.01%

* 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

	May 31, 2015		April 30, 2015	
	Market Value	% of Total Fund	Market Value	% of Total Fund
Total Global Equity	\$26,665,650,381	42.99%	\$26,669,525,460	42.78%
Intech	909,713,970	1.47%	990,922,082	1.59%
PIMCO Stock Plus	945,928,544	1.53%	933,097,762	1.50%
SSgA S&P 500	7,512,709,151	12.11%	7,615,622,485	12.22%
Summit Creek SCG	205,227,720	0.33%	201,978,295	0.32%
Frontier SCV	181,475,747	0.29%	179,522,307	0.29%
Huber SCV	259,460,658	0.42%	257,289,689	0.41%
Riverbridge SMIDG	162,438,682	0.26%	159,762,668	0.26%
SouthernSun SMID	159,605,654	0.26%	155,590,250	0.25%
SSgA Russell 2500	1,600,801,268	2.58%	1,567,821,230	2.51%
Domestic Equity Closed Portfolios	48	0.00%	3	0.00%
Domestic Eq. Cash	-771,340	(0.00%)	-908,841	(0.00%)
SSgA World ex-US	5,291,456,065	8.53%	5,071,586,385	8.14%
Marathon Asset Mgmt	2,519,146,739	4.06%	2,495,612,358	4.00%
Baillie Gifford	1,861,849,956	3.00%	1,867,494,006	3.00%
Mondrian Investment Partners	817,906,805	1.32%	823,958,518	1.32%
FIS	111,052,506	0.18%	110,745,810	0.18%
International Equity Cash	1,158,498	0.00%	724,863	0.00%
SSgA Emerging Markets	1,068,951,062	1.72%	1,106,840,348	1.78%
AQR Emerging	499,308,445	0.81%	521,816,527	0.84%
Baillie Gifford EMM	581,037,403	0.94%	587,419,735	0.94%
Driehaud Capital	599,709,024	0.97%	608,788,601	0.98%
Harding Loevner	379,145,682	0.61%	389,202,109	0.62%
Pzena Inv	526,361,298	0.85%	546,128,721	0.88%
Acadian EM SC	152,146,314	0.25%	154,074,696	0.25%
Wasatch EM SC	109,076,802	0.18%	108,224,927	0.17%
City of London EM	101,583,919	0.16%	77,749,523	0.12%
Emerging Markets Transition	83,528,712	0.13%	126,696,888	0.20%
Emerging Markets Cash	100,908	0.00%	803,209	0.00%
Core Fixed Income	\$8,692,106,880	14.01%	\$9,191,124,356	14.74%
Blackrock Passive (Core)	514,412,033	0.83%	615,743,361	0.99%
PIMCO (Core)	793,649,466	1.28%	894,057,467	1.43%
Loomis Sayles Core Corporate	1,131,035,616	1.82%	1,282,723,186	2.06%
Blackrock STRIPS	4,124,599,412	6.65%	4,253,036,221	6.82%
Blackrock TIPS	600,496,606	0.97%	605,056,175	0.97%
Blackrock Global ILBs	1,271,123,390	2.05%	1,283,726,327	2.06%
Access Capital/Merrill Lnch ETI	103,268,611	0.17%	103,195,393	0.17%
Community Capital Management	27,797,693	0.04%	27,811,650	0.04%
AFL-CIO Housing Investor Trust	125,651,875	0.20%	125,715,637	0.20%
Core FI Closed Portfolios	766	0.00%	814	0.00%
Core Fixed Cash	71,411	0.00%	58,126	0.00%
Value Added Fixed Income	\$5,095,617,563	8.22%	\$5,119,272,643	8.21%
Fidelity (High Yield)	321,489,620	0.52%	320,530,116	0.51%
Loomis Sayles High Yield	331,828,833	0.54%	330,354,769	0.53%
Shenkman	307,226,292	0.50%	306,076,823	0.49%
FI Distressed Debt Cash	12,894,994	0.02%	381,234	0.00%
FI High Yield Debt Cash	94,711	0.00%	88,694	0.00%
Eaton Vance Bank Loans	472,724,497	0.76%	472,567,126	0.76%
ING Bank Loans	466,890,942	0.75%	466,372,077	0.75%
Ashmore Emerging Markets Debt	498,991,843	0.80%	498,959,627	0.80%
PIMCO Emerging Debt	313,590,560	0.51%	313,698,239	0.50%
Investec EM Debt	289,129,533	0.47%	296,081,049	0.47%
Pictet EM Debt	461,518,401	0.74%	472,678,670	0.76%
Stone Harbor EM Debt	285,814,739	0.46%	292,781,016	0.47%
Distressed Debt Portfolio	1,333,422,598	2.15%	1,348,703,202	2.16%

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

	May 31, 2015		April 30, 2015	
	Market Value	% of Total Fund	Market Value	% of Total Fund
Private Equity	\$6,712,295,422	10.82%	\$6,727,316,439	10.79%
Special Equity	20,399,522	0.03%	20,916,377	0.03%
Special Equity 2000	30,000,618	0.05%	31,970,326	0.05%
Special Equity 2001	61,171,369	0.10%	61,607,139	0.10%
Special Equity 2002	5,482,245	0.01%	5,563,396	0.01%
Special Equity 2003	108,849,940	0.18%	110,254,211	0.18%
Special Equity 2004	77,501,935	0.12%	80,110,102	0.13%
Special Equity 2005	456,471,753	0.74%	477,676,905	0.77%
Special Equity 2006	657,454,278	1.06%	701,450,642	1.13%
Special Equity 2007	901,219,484	1.45%	916,905,743	1.47%
Special Equity 2008	882,284,468	1.42%	931,323,050	1.49%
Special Equity 2009	236,910,420	0.38%	237,487,909	0.38%
Special Equity 2010	477,781,188	0.77%	499,226,765	0.80%
Special Equity 2011	545,485,936	0.88%	563,411,791	0.90%
Special Equity 2012	206,124,986	0.33%	210,009,256	0.34%
Special Equity 2013	131,787,073	0.21%	132,125,670	0.21%
Special Equity 2014	137,644,536	0.22%	124,895,773	0.20%
Special Equity 2015	41,346,675	0.07%	34,546,675	0.06%
Venture Capital	14,471,167	0.02%	14,471,167	0.02%
Venture Capital 2000	69,744,514	0.11%	69,744,514	0.11%
Venture Capital 2001	40,159,310	0.06%	41,523,697	0.07%
Venture Capital 2002	14,465,187	0.02%	14,465,187	0.02%
Venture Capital 2003	28,464,435	0.05%	27,964,435	0.04%
Venture Capital 2004	37,008,440	0.06%	38,284,587	0.06%
Venture Capital 2005	117,519,755	0.19%	121,594,782	0.20%
Venture Capital 2006	145,111,750	0.23%	145,280,380	0.23%
Venture Capital 2007	183,529,433	0.30%	190,093,717	0.30%
Venture Capital 2008	31,031,037	0.05%	31,031,037	0.05%
Venture Capital 2009	235,720,641	0.38%	237,475,578	0.38%
Venture Capital 2010	264,526,230	0.43%	264,526,230	0.42%
Venture Capital 2011	81,570,418	0.13%	81,674,885	0.13%
Venture Capital 2012	188,173,035	0.30%	188,460,247	0.30%
Venture Capital 2013	37,988,588	0.06%	33,906,856	0.05%
Venture Capital 2014	38,646,335	0.06%	37,936,097	0.06%
Venture Capital 2015	625,000	0.00%	625,000	0.00%
Private Equity Cash	205,623,743	0.33%	48,776,322	0.08%
Real Estate	\$6,010,397,024	9.69%	\$5,889,829,516	9.45%
Invesco Core	1,115,351,551	1.80%	1,113,922,551	1.79%
LaSalle Core	1,513,153,141	2.44%	1,513,153,141	2.43%
AEW Core	958,522,798	1.55%	957,808,074	1.54%
JP Morgan I.M.	682,322,337	1.10%	681,822,337	1.09%
TA Associates	1,088,659,828	1.76%	1,087,704,711	1.74%
Core Real Estate Portfolio Debt	-1,004,112,597	(1.62%)	-1,002,758,874	(1.61%)
Canyon-Johnson II	5,561,675	0.01%	5,561,675	0.01%
Intercontinental IV	811,307	0.00%	2,497,873	0.00%
New Boston Urban I	7,328,757	0.01%	7,351,167	0.01%
Non Core 2011	413,438,159	0.67%	411,775,325	0.66%
INVESCO Global REIT	274,051,732	0.44%	278,005,111	0.45%
CenterSquare Global REIT	783,095,084	1.26%	792,858,837	1.27%
EII (INVESCO TRAN)	149,526,657	0.24%	151,687,235	0.24%
RREEF/European Investors Tran	27,317	0.00%	29,087	0.00%
Real Estate Leverage Cash	-65,629	(0.00%)	53,640	0.00%
REIT Cash	39,775	0.00%	32,852	0.00%
Core Real Estate Cash	22,685,129	0.04%	-111,675,224	(0.18%)

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

	May 31, 2015		April 30, 2015	
	Market Value	% of Total Fund	Market Value	% of Total Fund
Timber/Natural Resources	\$2,349,993,430	3.79%	\$2,381,723,817	3.82%
Forest Investment Associates	1,132,443,566	1.83%	1,132,443,566	1.82%
The Campbell Group	539,881,753	0.87%	544,048,274	0.87%
Timber Cash	38,662	0.00%	20,625	0.00%
Jennison Natural Resources	197,466,767	0.32%	211,803,868	0.34%
T Rowe Natural Resources	202,645,944	0.33%	210,454,909	0.34%
Public Natural Resources Cash	3,338	0.00%	3,095	0.00%
Private Natural Resources	277,759,599	0.45%	277,518,433	0.45%
Private Natural Resources Cash	-246,200	(0.00%)	5,431,046	0.01%
Portfolio Completion Strategy	\$97,219,239	0.16%	\$97,715,501	0.16%
Portfolio Completion Strategy	97,219,239	0.16%	97,715,501	0.16%
Hedge Funds	\$5,848,562,865	9.43%	\$5,742,001,893	9.21%
Arden HFOF (Liquidating)	59,667,408	0.10%	63,491,794	0.10%
Ivy (Liquidating)	5,887,420	0.01%	5,749,645	0.01%
PAAMCO	1,471,838,187	2.37%	1,456,938,855	2.34%
Direct Hedge Funds	4,311,150,473	6.95%	4,214,803,969	6.76%
Hedge Fund Cash	19,377	0.00%	1,017,630	0.00%
Portable Alpha	\$33,105,468	0.05%	\$35,057,930	0.06%
Austin Capital Management	1,596,326	0.00%	1,617,650	0.00%
Crestline Advisors	14,250,495	0.02%	14,293,780	0.02%
Strategic Investment	17,225,990	0.03%	17,238,275	0.03%
Portable Alpha Cash	32,657	0.00%	1,908,225	0.00%
Total Overlay	\$465,938,648	0.75%	\$451,610,411	0.72%
Clifton Overlay	192,350,286	0.31%	197,031,428	0.32%
Overlay Cash	273,588,362	0.44%	254,578,983	0.41%
Participant Cash	14,991,513	0.02%	11,818,209	0.02%
Teachers and Employees Cash	37,779,467	0.06%	25,161,590	0.04%
Total Fund	\$62,023,657,900	100.0%	\$62,342,157,764	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Total Fund ex-cash (Core)	(0.20%)	4.79%	6.76%	12.83%	11.04%
Interim Benchmark (1)	(0.31%)	4.19%	6.16%	11.90%	10.28%
Total Core Bechmark (2)	(0.18%)	4.18%	5.80%	10.90%	9.31%
Global Equity	0.16%	3.08%	5.23%	16.31%	12.46%
Global Equity Benchmark (13)	(0.18%)	2.99%	5.22%	15.87%	11.83%
Core Fixed Income	(1.68%)	8.60%	8.74%	4.65%	5.78%
Core Fixed-Income Bench (18)	(1.70%)	8.30%	8.33%	4.01%	5.27%
Value-Added Fixed Income	(0.45%)	(2.14%)	(0.59%)	6.47%	7.74%
Value-Added Benchmark (23)	(0.20%)	(5.75%)	(4.58%)	4.68%	5.27%
Private Equity	(0.38%)	9.55%	14.05%	19.00%	18.03%
Private Equity Benchmark (24)	(0.38%)	9.55%	14.05%	19.00%	18.03%
Private Equity Benchmark (26)	0.92%	9.83%	10.66%	9.17%	8.43%
Real Estate	0.07%	10.05%	12.16%	13.00%	13.51%
Real Estate Benchmark (29)	(0.28%)	8.07%	10.73%	11.65%	12.51%
Timber/Natural Resources	(1.14%)	(1.44%)	0.37%	6.62%	5.68%
Timber/Natural Benchmark (32)	(0.70%)	(0.44%)	1.51%	7.87%	5.80%
Portfolio Completion Strategy	(0.53%)	-	-	-	-
Portfolio Completion Benchmark (36)	0.26%	-	-	-	-
Hedge Funds	1.03%	5.20%	6.54%	9.28%	6.55%
Hedge Funds Benchmark (35)	1.01%	5.17%	6.22%	6.55%	4.25%
Portable Alpha	(0.14%)	(1.24%)	(0.64%)	(1.54%)	(1.32%)
Portable Alpha Benchmark (37)	1.01%	5.17%	6.22%	6.56%	4.26%
Total Overlay	(0.56%)	4.03%	5.01%	-	-
Total Overlay Benchmark (38)	(0.56%)	4.03%	5.01%	-	-
Participant Cash	0.01%	0.12%	0.13%	0.14%	0.16%
Teachers and Employees Cash	0.01%	0.12%	0.13%	0.14%	0.16%
Merrill Lynch 90 Day Tbill (39)	0.00%	0.02%	0.02%	0.07%	0.08%
Total Fund	(0.20%)	4.78%	6.74%	12.78%	11.00%
Interim Benchmark (1)	(0.31%)	4.19%	6.16%	11.90%	10.28%
Total Core Bechmark (2)	(0.18%)	4.18%	5.80%	10.90%	9.31%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Domestic Equity	\$11,936,592,437	44.76%	\$12,060,697,930	45.22%
Large Cap	\$9,368,353,618	35.13%	\$9,539,642,329	35.77%
Intech	909,713,970	3.41%	990,922,082	3.72%
PIMCO Stock Plus	945,928,544	3.55%	933,097,762	3.50%
SSgA S&P 500	7,512,709,151	28.17%	7,615,622,485	28.56%
Small/SMID Cap Core	\$2,569,009,728	9.63%	\$2,521,964,440	9.46%
Small Cap Growth				
Summit Creek SCG	205,227,720	0.77%	201,978,295	0.76%
Small Cap Value	\$440,936,405	1.65%	\$436,811,997	1.64%
Frontier SCV	181,475,747	0.68%	179,522,307	0.67%
Huber SCV	259,460,658	0.97%	257,289,689	0.96%
SMID Growth				
Riverbridge SMIDG	162,438,682	0.61%	159,762,668	0.60%
SMID Cap Core	\$1,760,406,922	6.60%	\$1,723,411,481	6.46%
SouthernSun SMID	159,605,654	0.60%	155,590,250	0.58%
SSgA Russell 2500	1,600,801,268	6.00%	1,567,821,230	5.88%
Domestic Equity Closed Portfolios	48	0.00%	3	0.00%
Domestic Eq. Cash	-771,340	(0.00%)	-908,841	(0.00%)
International Equity	\$10,602,586,852	39.76%	\$10,370,138,582	38.88%
SSgA World ex-US	5,291,456,065	19.84%	5,071,586,385	19.02%
Marathon Asset Mgmt	2,519,146,739	9.45%	2,495,612,358	9.36%
Baillie Gifford	1,861,849,956	6.98%	1,867,494,006	7.00%
Mondrian Investment Partners	817,906,805	3.07%	823,958,518	3.09%
FIS	111,052,506	0.42%	110,745,810	0.42%
International Equity Cash	1,158,498	0.00%	724,863	0.00%
Emerging Markets	\$4,126,471,092	15.47%	\$4,238,688,948	15.89%
Acadian Frontier	25,524,001	0.10%	10,526,786	0.04%
SSgA Emerging Markets	1,068,951,062	4.01%	1,106,840,348	4.15%
AQR Emerging	499,308,445	1.87%	521,816,527	1.96%
Baillie Gifford EMM	581,037,403	2.18%	587,419,735	2.20%
Driehaud Capital	599,709,024	2.25%	608,788,601	2.28%
Harding Loevner	379,145,682	1.42%	389,202,109	1.46%
Pzena Inv	526,361,298	1.97%	546,128,721	2.05%
Acadian EM SC	152,146,314	0.57%	154,074,696	0.58%
Wasatch EM SC	109,076,802	0.41%	108,224,927	0.41%
City of London EM	101,583,919	0.38%	77,749,523	0.29%
Emerging Markets Transition	83,528,712	0.31%	126,696,888	0.48%
Emerging Markets Cash	100,908	0.00%	803,209	0.00%
Total Global Equity	\$26,665,650,381	100.0%	\$26,669,525,460	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Domestic Equity	1.49%	8.47%	11.34%	19.80%	16.41%
Domestic Equity Benchmark (4)	1.45%	8.87%	11.72%	19.80%	16.45%
Large Cap	1.40%	9.83%	12.11%	19.98%	18.54%
Intech	2.14%	12.68%	14.76%	20.59%	17.35%
PIMCO Stock Plus	1.40%	9.75%	11.91%	20.59%	17.73%
SSgA S&P 500	1.31%	9.47%	11.79%	19.82%	-
S&P 500 Index	1.29%	9.54%	11.81%	19.67%	16.54%
Small/SMID Cap Core	1.81%	3.42%	8.31%	18.96%	-
Small/SMID Benchmark (3)	2.06%	6.14%	11.21%	20.17%	-
Small Cap Growth					
Summit Creek SCG	1.45%	5.47%	13.33%	-	-
Russell 2000 Growth Index	3.67%	10.85%	17.73%	21.60%	17.37%
Small Cap Value	0.76%	(7.19%)	(3.28%)	-	-
Frontier SCV	0.94%	(0.48%)	4.57%	-	-
Huber SCV	0.64%	(11.36%)	(8.11%)	-	-
Russell 2000 Value Index	0.83%	0.64%	5.10%	17.27%	12.70%
SMID Cap Growth					
Riverbridge SMIDG	1.55%	7.43%	11.52%	-	-
Russell 2500 Growth Index	3.08%	11.67%	17.55%	21.75%	18.04%
SMID Cap Core	2.14%	5.85%	10.78%	20.18%	-
SouthernSun SMID	2.46%	(1.14%)	2.98%	-	-
SSgA Russell 2500	2.10%	6.60%	11.62%	20.11%	-
Russell 2500 Index	2.14%	6.66%	11.76%	20.36%	16.28%
International Equity	(0.19%)	(0.29%)	0.94%	16.34%	11.09%
International Equity Benchmark (7)	(0.66%)	(1.86%)	(0.36%)	15.07%	9.61%
SSgA World ex-US	(0.64%)	(1.93%)	(0.35%)	15.50%	10.02%
International Equity Benchmark (5)	(0.74%)	(2.57%)	(1.08%)	14.79%	9.45%
Marathon Asset Mgmt	0.97%	2.13%	3.16%	18.20%	12.56%
Baillie Gifford	(0.28%)	1.19%	1.60%	15.97%	11.86%
Mondrian Investment Partners	(0.79%)	(0.78%)	0.81%	16.89%	10.94%
FIS	0.33%	(0.10%)	0.89%	-	-
International Equity Benchmark (6)	(0.58%)	(1.48%)	(0.54%)	15.74%	9.88%
Emerging Markets	(2.62%)	(3.16%)	(0.56%)	6.49%	4.61%
EM Benchmark (8)	(3.45%)	(1.25%)	1.20%	6.79%	4.45%
SSgA Emerging Markets	(3.42%)	(0.88%)	1.76%	7.08%	4.85%
CUSTOM MSCI EM IMI NET DIVS (8)	(3.32%)	(0.99%)	1.46%	6.88%	4.50%
AQR Emerging	(4.31%)	-	-	-	-
Baillie Gifford EMM	(1.04%)	-	-	-	-
Driehaud Capital	(1.45%)	-	-	-	-
Harding Loevner	(2.61%)	-	-	-	-
Pzena Inv	(3.64%)	-	-	-	-
Custom MSCI EM STANDARD INDEX (9)	(3.93%)	(1.93%)	0.61%	6.30%	4.22%
Emerging Markets Small Cap	(0.56%)	5.49%	7.35%	13.29%	-
Acadian EM SC	(1.40%)	6.55%	8.98%	22.29%	-
Wasatch EM SC	0.63%	4.78%	6.29%	8.86%	-
Custom MSCI Emer Mkt SC (10)	0.46%	5.18%	7.08%	10.76%	-
Total Frontier	(0.91%)	-	-	-	-
Acadian Frontier	(0.06%)	-	-	-	-
City of London EM	(1.12%)	-	-	-	-
Custom MSCI Frontier Mkt Capped Net	(3.37%)	-	-	-	-
Global Equity (12)	0.16%	3.08%	5.23%	16.31%	12.46%
Global Equity Benchmark (13)	(0.18%)	2.99%	5.22%	15.87%	11.83%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Domestic Investment Grade Fixed Income	\$6,820,486,884	78.47%	\$7,302,341,854	79.45%
Total Aggregate	\$2,698,095,695	31.04%	\$3,051,524,221	33.20%
Blackrock Passive (Core)	514,412,033	5.92%	615,743,361	6.70%
PIMCO (Core)	793,649,466	9.13%	894,057,467	9.73%
Loomis Sayles Core Corporate	1,131,035,616	13.01%	1,282,723,186	13.96%
Access Capital/Merrill Lynch ETI	103,268,611	1.19%	103,195,393	1.12%
Community Capital Management	27,797,693	0.32%	27,811,650	0.30%
AFL-CIO Housing Investor Trust	125,651,875	1.45%	125,715,637	1.37%
Blackrock STRIPS	\$4,124,797,065	47.45%	\$4,253,199,502	46.28%
TIPS & ILBs Fixed Income	\$1,871,619,996	21.53%	\$1,888,782,502	20.55%
Blackrock TIPS	600,496,606	6.91%	605,056,175	6.58%
Blackrock Global ILBs	1,271,123,390	14.62%	1,283,726,327	13.97%
Core Fixed Cash	71,411	0.00%	58,126	0.00%
Core FI Closed Portfolios	766	0.00%	814	0.00%
Core Fixed Income	\$8,692,106,880	100.0%	\$9,191,124,356	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Domestic Investment Grade Fixed Income	(1.89%)	10.04%	10.17%	5.48%	6.03%
Domestic Invest Grade Fixed (15)	1.45%	8.87%	11.72%	19.80%	16.45%
Total Aggregate (14)	(0.12%)	3.49%	3.61%	2.95%	4.39%
Blackrock Passive (Core)	(0.26%)	2.94%	3.02%	2.23%	3.96%
PIMCO (Core)	(0.07%)	3.04%	3.07%	3.05%	4.33%
Loomis Sayles Core Corporate	(0.14%)	4.01%	4.23%	4.12%	5.47%
Community Capital Management	(0.02%)	2.92%	3.01%	2.33%	3.54%
AFL-CIO Housing Investor Trust	(0.04%)	3.35%	3.67%	2.38%	4.05%
Access Capital/Merrill Lynch ETI	0.12%	3.68%	3.92%	2.86%	3.64%
Barclays Aggregate Index	(0.24%)	2.98%	3.03%	2.21%	3.90%
Blackrock STRIPS	(3.02%)	16.29%	16.46%	-	-
Barclays US Strip 20+ Idx	(3.01%)	16.41%	16.31%	2.21%	12.41%
TIPS & ILBs Fixed Income	(0.90%)	3.15%	3.28%	1.65%	4.73%
33% BC Tips/67% BC ILB Hedged (17)	(0.83%)	3.13%	3.24%	1.18%	4.43%
Blackrock TIPS	(0.75%)	(0.80%)	(0.48%)	(0.62%)	3.79%
Barclays US TIPS Index	(0.82%)	(0.77%)	(0.47%)	(0.62%)	3.79%
Blackrock Global ILBs	(0.97%)	5.13%	5.16%	2.79%	5.07%
BC ILB US Hedged (16)	(0.84%)	5.08%	5.09%	2.06%	4.73%
Core Fixed Income	(1.68%)	8.60%	8.74%	4.65%	5.78%
Core Fixed-Income Bench (18)	(1.70%)	8.30%	8.33%	4.01%	5.27%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Total High Yield	\$960,639,455	18.85%	\$957,050,402	18.70%
Fidelity (High Yield)	321,489,620	6.31%	320,530,116	6.26%
Loomis Sayles High Yield	331,828,833	6.51%	330,354,769	6.45%
Shenkman	307,226,292	6.03%	306,076,823	5.98%
FI High Yield Debt Cash	94,711	0.00%	88,694	0.00%
Total Bank Loans	\$939,615,440	18.44%	\$938,939,203	18.34%
Eaton Vance Bank Loans	472,724,497	9.28%	472,567,126	9.23%
ING Bank Loans	466,890,942	9.16%	466,372,077	9.11%
Total Emerging Debt	\$812,582,403	15.95%	\$812,657,866	15.87%
Ashmore Emerging Markets Debt	498,991,843	9.79%	498,959,627	9.75%
PIMCO Emerging	313,590,560	6.15%	313,698,239	6.13%
Total EM Debt - Local	\$1,036,462,673	20.34%	\$1,061,540,735	20.74%
Investec	289,129,533	5.67%	296,081,049	5.78%
Pictet	461,518,401	9.06%	472,678,670	9.23%
Stone Harbor	285,814,739	5.61%	292,781,016	5.72%
Distressed Debt Portfolio	1,333,422,598	26.17%	1,348,703,202	26.35%
Distressed Debt Cash	12,894,994	0.25%	381,234	0.01%
Value Added Fixed Income	\$5,095,617,563	100.0%	\$5,119,272,643	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Total High Yield	0.41%	1.87%	2.95%	8.69%	9.62%
Pyramis (High Yield)	0.33%	0.28%	1.45%	8.53%	9.83%
Loomis Sayles High Yield	0.48%	2.49%	3.76%	9.90%	10.48%
Shenkman	0.41%	2.87%	3.62%	7.58%	8.47%
ML Master II HY Benchmark (19)	0.29%	1.00%	1.86%	8.07%	9.00%
Total Bank Loans	0.09%	3.05%	3.49%	5.41%	5.79%
Eaton Vance Bank Loans	0.05%	2.57%	2.93%	4.67%	5.24%
ING Bank Loans	0.14%	3.54%	4.07%	6.17%	6.36%
S&P/LSTA Leveraged Loan	0.19%	2.25%	2.84%	5.27%	5.44%
Total Emerging Debt	0.00%	(1.65%)	(0.66%)	4.87%	7.22%
Ashmore Emerging Markets Debt	0.06%	(2.05%)	(1.09%)	4.88%	7.35%
PIMCO Emerging	(0.09%)	(1.01%)	0.02%	4.85%	7.02%
JPM EMBI Global	(0.54%)	0.13%	0.72%	5.25%	7.31%
Total EM Debt - Local	(2.40%)	(13.98%)	(13.25%)	(2.17%)	-
Investec	(2.44%)	(13.04%)	(12.46%)	(0.80%)	-
Pictet	(2.32%)	(13.88%)	(13.10%)	(2.47%)	-
Stone Harbor	(2.47%)	(15.07%)	(14.27%)	(3.09%)	-
JPM GBI EM GI Diversified	(2.58%)	(14.35%)	(13.49%)	(1.62%)	1.39%
Public Value-Add Fixed Income	(0.55%)	(3.55%)	(2.74%)	3.88%	5.84%
Public VAFI BM (19)	(0.71%)	(3.62%)	(2.87%)	3.92%	5.74%
Distressed Debt Portfolio	(0.18%)	1.89%	5.74%	13.95%	12.57%
Altman Benchmark (21)	1.18%	(11.56%)	(9.32%)	6.41%	5.03%
Value Added Fixed Income (22)	(0.45%)	(2.14%)	(0.59%)	6.47%	7.74%
Value-Added Benchmark (23)	(0.20%)	(5.75%)	(4.58%)	4.68%	5.27%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Total Special Equity	\$4,977,916,426	74.16%	\$5,139,481,731	76.40%
Special Equity	20,399,522	0.30%	20,916,377	0.31%
Special Equity 2000	30,000,618	0.45%	31,970,326	0.48%
Special Equity 2001	61,171,369	0.91%	61,607,139	0.92%
Special Equity 2002	5,482,245	0.08%	5,563,396	0.08%
Special Equity 2003	108,849,940	1.62%	110,254,211	1.64%
Special Equity 2004	77,501,935	1.15%	80,110,102	1.19%
Special Equity 2005	456,471,753	6.80%	477,676,905	7.10%
Special Equity 2006	657,454,278	9.79%	701,450,642	10.43%
Special Equity 2007	901,219,484	13.43%	916,905,743	13.63%
Special Equity 2008	882,284,468	13.14%	931,323,050	13.84%
Special Equity 2009	236,910,420	3.53%	237,487,909	3.53%
Special Equity 2010	477,781,188	7.12%	499,226,765	7.42%
Special Equity 2011	545,485,936	8.13%	563,411,791	8.37%
Special Equity 2012	206,124,986	3.07%	210,009,256	3.12%
Special Equity 2013	131,787,073	1.96%	132,125,670	1.96%
Special Equity 2014	137,644,536	2.05%	124,895,773	1.86%
Special Equity 2015	41,346,675	0.62%	34,546,675	0.51%
Total Venture Capital	\$1,528,755,274	22.78%	\$1,539,058,396	22.88%
Venture Capital	14,471,167	0.22%	14,471,167	0.22%
Venture Capital 2000	69,744,514	1.04%	69,744,514	1.04%
Venture Capital 2001	40,159,310	0.60%	41,523,697	0.62%
Venture Capital 2002	14,465,187	0.22%	14,465,187	0.22%
Venture Capital 2003	28,464,435	0.42%	27,964,435	0.42%
Venture Capital 2004	37,008,440	0.55%	38,284,587	0.57%
Venture Capital 2005	117,519,755	1.75%	121,594,782	1.81%
Venture Capital 2006	145,111,750	2.16%	145,280,380	2.16%
Venture Capital 2007	183,529,433	2.73%	190,093,717	2.83%
Venture Capital 2008	31,031,037	0.46%	31,031,037	0.46%
Venture Capital 2009	235,720,641	3.51%	237,475,578	3.53%
Venture Capital 2010	264,526,230	3.94%	264,526,230	3.93%
Venture Capital 2011	81,570,418	1.22%	81,674,885	1.21%
Venture Capital 2012	188,173,035	2.80%	188,460,247	2.80%
Venture Capital 2013	37,988,588	0.57%	33,906,856	0.50%
Venture Capital 2014	38,646,335	0.58%	37,936,097	0.56%
Venture Capital 2015	625,000	0.01%	625,000	0.01%
Private Equity Cash	205,623,743	3.06%	48,776,322	0.73%
Private Equity	\$6,712,295,422	100.0%	\$6,727,316,439	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Total Special Equity	(0.48%)	7.42%	11.85%	18.54%	17.67%
Special Equity	(0.12%)	28.25%	28.50%	19.64%	19.97%
Special Equity 2000	(0.31%)	26.52%	31.08%	24.29%	17.20%
Special Equity 2001	(0.20%)	6.96%	11.92%	21.59%	16.73%
Special Equity 2002	(1.46%)	(6.40%)	(2.80%)	14.45%	24.75%
Special Equity 2003	(0.37%)	8.41%	8.40%	12.41%	12.00%
Special Equity 2004	(0.17%)	7.93%	9.85%	20.34%	20.93%
Special Equity 2005	(0.45%)	8.91%	11.89%	19.04%	18.33%
Special Equity 2006	(0.23%)	4.79%	11.23%	17.99%	17.56%
Special Equity 2007	(0.82%)	1.32%	3.86%	15.97%	15.97%
Special Equity 2008	(0.51%)	10.01%	15.12%	23.07%	20.76%
Special Equity 2009	(0.24%)	19.80%	30.52%	22.66%	15.72%
Special Equity 2010	(0.40%)	8.43%	13.94%	15.97%	-
Special Equity 2011	(0.05%)	16.52%	20.34%	14.43%	-
Special Equity 2012	(1.85%)	(4.17%)	2.63%	-	-
Special Equity 2013	(0.17%)	(3.89%)	4.06%	-	-
Special Equity 2014	(0.81%)	(9.57%)	(17.58%)	-	-
Special Equity 2015	0.00%	-	-	-	-
Total Venture Capital	(0.07%)	18.02%	23.12%	22.63%	21.41%
Venture Capital	0.00%	16.08%	14.23%	13.11%	12.09%
Venture Capital 2000	0.00%	(5.00%)	(3.10%)	9.86%	11.47%
Venture Capital 2001	(0.00%)	6.98%	10.84%	12.75%	11.19%
Venture Capital 2002	0.00%	8.05%	10.24%	4.23%	2.28%
Venture Capital 2003	0.00%	4.32%	17.79%	27.82%	19.21%
Venture Capital 2004	0.00%	(12.30%)	(17.96%)	24.16%	42.57%
Venture Capital 2005	0.00%	27.85%	31.47%	20.84%	18.68%
Venture Capital 2006	(0.12%)	19.68%	25.49%	18.38%	19.69%
Venture Capital 2007	0.02%	17.87%	18.25%	23.39%	26.44%
Venture Capital 2008	0.00%	25.66%	27.08%	39.76%	34.94%
Venture Capital 2009	0.00%	20.50%	25.82%	24.05%	18.97%
Venture Capital 2010	0.00%	37.33%	56.71%	37.48%	19.51%
Venture Capital 2011	(0.72%)	12.58%	25.74%	17.90%	-
Venture Capital 2012	(0.15%)	19.24%	21.03%	9.07%	-
Venture Capital 2013	0.00%	6.23%	5.78%	-	-
Venture Capital 2014	(0.24%)	(6.77%)	(8.02%)	-	-
Venture Capital 2015	0.00%	-	-	-	-
Private Equity	(0.38%)	9.55%	14.05%	19.00%	18.03%
Private Equity Benchmark (24)	(0.38%)	9.55%	14.05%	19.00%	18.03%
Private Equity Benchmark (26)	0.92%	9.83%	10.66%	9.17%	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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Private Real Estate	\$4,781,036,955	79.55%	\$4,778,837,979	81.14%
Private Core Real Estate	\$5,358,009,654	89.15%	\$5,354,410,814	90.91%
Invesco Core	1,115,351,551	18.56%	1,113,922,551	18.91%
LaSalle Core	1,513,153,141	25.18%	1,513,153,141	25.69%
AEW Core	958,522,798	15.95%	957,808,074	16.26%
JP Morgan I.M.	682,322,337	11.35%	681,822,337	11.58%
TA Associates	1,088,659,828	18.11%	1,087,704,711	18.47%
Core Real Estate Debt	-1,004,112,597	(16.71%)	-1,002,758,874	(17.03%)
Total Non-Core	\$427,139,898	7.11%	\$427,186,039	7.25%
Total ETI	\$13,701,739	0.23%	\$15,410,714	0.26%
Canyon-Johnson II	5,561,675	0.09%	5,561,675	0.09%
Intercontinental IV	811,307	0.01%	2,497,873	0.04%
New Boston Urban I	7,328,757	0.12%	7,351,167	0.12%
Non Core 2011	413,438,159	6.88%	411,775,325	6.99%
Total REITs	\$1,206,740,566	20.08%	\$1,222,613,121	20.76%
Global REITS	\$1,206,673,473	20.08%	\$1,222,551,182	20.76%
INVESCO Global REIT	274,051,732	4.56%	278,005,111	4.72%
CenterSquare Global REIT	783,095,084	13.03%	792,858,837	13.46%
EII (INVESCO TRAN)	149,526,657	2.49%	151,687,235	2.58%
RREEF/European Investors Tran	27,317	0.00%	29,087	0.00%
REIT Cash	39,775	0.00%	32,852	0.00%
Real Estate Leverage Cash	-65,629	(0.00%)	53,640	0.00%
Core Real Estate Cash	22,685,129	0.38%	-111,675,224	(1.90%)
Total Real Estate	\$6,010,397,024	100.0%	\$5,889,829,516	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Total Private Real Estate (27)	0.41%	11.74%	14.12%	13.24%	14.07%
Private Core Real Estate	0.40%	10.05%	13.22%	11.52%	13.10%
Invesco Core	0.34%	11.81%	12.97%	12.98%	14.67%
LaSalle Core	0.43%	9.36%	12.16%	13.00%	14.32%
AEW Core	0.46%	14.26%	16.36%	13.21%	-
JP Morgan I.M.	0.19%	8.13%	12.00%	8.41%	13.62%
TA Associates	0.48%	7.75%	12.69%	9.88%	11.18%
NCREIF Property 1Q Lag	0.00%	8.83%	11.82%	11.11%	12.14%
Total Non-Core Real Estate	0.18%	11.11%	12.55%	11.39%	6.16%
ETI (Partnerships)	0.00%	3.95%	6.37%	1.65%	1.19%
Canyon-Johnson II	0.00%	5.51%	7.50%	(1.96%)	(2.72%)
Intercontinental IV	0.00%	17.53%	21.71%	9.80%	8.10%
New Boston Urban I	0.00%	(1.71%)	0.53%	3.22%	4.05%
Non Core 2011	0.18%	11.38%	12.78%	14.91%	-
NCREIF Property 1Q Lag	0.00%	8.83%	11.82%	11.11%	12.14%
Total REITs	(1.26%)	4.92%	6.35%	13.15%	12.75%
REIT Benchmark (28)	(1.42%)	4.36%	5.77%	13.18%	12.86%
Global REITS	(1.27%)	4.89%	6.32%	13.14%	-
INVESCO Global REIT	(1.38%)	4.95%	6.52%	13.69%	-
CenterSquare Global REIT	(1.20%)	5.99%	7.48%	13.77%	-
EII (INVESCO TRAN)	(1.38%)	-	-	-	-
EPRA/NAREIT Dev Net Total Idx	(1.42%)	4.83%	6.24%	13.36%	-
Real Estate	0.07%	10.05%	12.16%	13.00%	13.51%
Real Estate Benchmark (29)	(0.28%)	8.07%	10.73%	11.65%	12.51%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Total Timber	\$1,672,363,982	71.16%	\$1,676,512,465	70.39%
Forest Investment Associates	1,132,443,566	48.19%	1,132,443,566	47.55%
The Campbell Group	539,881,753	22.97%	544,048,274	22.84%
Timber Cash	38,662	0.00%	20,625	0.00%
Natural Resources - Public	\$400,116,049	17.03%	\$422,261,872	17.73%
Jennison Natural Resources	197,466,767	8.40%	211,803,868	8.89%
T. Rowe Natural Resources	202,645,944	8.62%	210,454,909	8.84%
Public Natural Resources Cash	3,338	0.00%	3,095	0.00%
Natural Resources - Private	\$277,513,399	11.81%	\$282,949,479	11.88%
Private Natural Resources	277,759,599	11.82%	277,518,433	11.65%
Private Natural Resources Cash	-246,200	(0.01%)	5,431,046	0.23%
Total Timber/Natural Resources	\$2,349,993,430	100.0%	\$2,381,723,817	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Total Timber	(0.29%)	7.90%	9.00%	9.05%	6.37%
Forest Investment Associates	0.00%	8.53%	8.92%	9.51%	6.60%
The Campbell Group	(0.89%)	6.61%	9.61%	7.72%	-
NCREIF Timber Index 1 Qtr Lag (30)	0.00%	8.74%	10.48%	9.30%	5.78%
Natural Resources Public	(5.27%)	(24.42%)	(19.78%)	4.23%	3.15%
Jennison Natural Resources	(6.72%)	(30.09%)	(25.18%)	0.75%	0.70%
T. Rowe Natural Resources	(3.80%)	(17.94%)	(13.72%)	8.15%	5.60%
Lipper Gbl Nat Res Idx	(4.26%)	(22.36%)	(18.30%)	3.41%	1.66%
Total Natural Resources Private	0.00%	(6.37%)	(7.75%)	(2.48%)	6.37%
Private Natural Resources	0.00%	(6.49%)	(7.86%)	(2.60%)	6.19%
Natural Resource Private Bench (31)	0.00%	(6.37%)	(7.75%)	(2.48%)	6.37%
Timber/Natural Resources	(1.14%)	(1.44%)	0.37%	6.62%	5.68%
Timber/Natural Benchmark (32)	(0.70%)	(0.44%)	1.51%	7.87%	5.80%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Portfolio Completion Strategy	97,219,239	100.00%	97,715,501	100.00%
Total Portfolio Completion Strategy	\$97,219,239	100.0%	\$97,715,501	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Portfolio Completion Strategy	(0.53%)	-	-	-	-
Total Portfolio Completion Strategy	(0.53%)	-	-	-	-
Total Portfolio Completion BM (35)	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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Arden HFOF (Liquidating)	59,667,408	1.02%	63,491,794	1.11%
Ivy (Liquidating)	5,887,420	0.10%	5,749,645	0.10%
PAAMCO	1,471,838,187	25.17%	1,456,938,855	25.37%
Direct Hedge Funds	4,311,150,473	73.71%	4,214,803,969	73.40%
Hedge Fund Cash	19,377	0.00%	1,017,630	0.02%
Hedge Funds Composite	\$5,848,562,865	100.0%	\$5,742,001,893	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Arden HFOF (Liquidating)	1.87%	2.66%	3.38%	-	-
Ivy Liquidating	2.40%	14.74%	14.11%	7.66%	2.98%
PAAMCO	1.02%	2.48%	3.74%	10.16%	6.49%
HFRI Composite Index (32)	1.01%	5.17%	6.22%	6.56%	4.26%
Direct Hedge Funds	1.02%	6.17%	7.56%	9.27%	-
HFRI Composite Index (33)	1.01%	5.17%	6.22%	6.56%	-
Hedge Funds	1.03%	5.20%	6.54%	9.28%	6.55%
Total Hedge Funds Benchmark (34)	1.01%	5.17%	6.22%	6.55%	4.25%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Portable Alpha	\$33,072,811	99.90%	\$33,149,705	94.56%
Austin Capital Management	1,596,326	4.82%	1,617,650	4.61%
Crestline Advisors	14,250,495	43.05%	14,293,780	40.77%
Strategic Investment	17,225,990	52.03%	17,238,275	49.17%
Portable Alpha Cash	32,657	0.10%	1,908,225	5.44%
Total Portable Alpha Wind Down	\$33,105,468	100.0%	\$35,057,930	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Portable Alpha	(0.14%)	(1.27%)	(0.67%)	(1.55%)	(1.24%)
Austin Capital Management	0.56%	1.52%	1.17%	(11.66%)	(11.24%)
Crestline Advisors	(0.30%)	0.80%	1.42%	(0.48%)	1.21%
Strategic Investment	(0.07%)	(3.44%)	(2.68%)	0.01%	(1.40%)
Total Portable Alpha	(0.14%)	(1.24%)	(0.64%)	(1.54%)	(1.32%)
Portable Alpha Benchmark (35)	1.01%	5.17%	6.22%	6.56%	4.26%

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 May 31, 2015, with the distribution as of April 30, 2015.

Asset Distribution Across Investment Managers

	May 31, 2015		April 30, 2015	
	Market Value	% of Asset Class	Market Value	% of Asset Class
Clifton Overlay	192,350,286	41.28%	197,031,428	43.63%
Overlay Cash	273,588,362	58.72%	254,578,983	56.37%
Total Overlay	\$465,938,648	100.0%	\$451,610,411	100.0%

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended May 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 May 31, 2015

	Last Month	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months
Clifton Overlay	(0.85%)	4.77%	6.56%	-	-
Total Overlay	(0.56%)	4.03%	5.01%	-	-
Total Overlay Benchmark (36)	(0.56%)	4.03%	5.01%	-	-

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

(27) ML 90 Day T-Bill + 4% through 12/31/2009; currently 60% HFRI Fund of Funds Conservative Index/20% HFRI Relative Value Total Index/20% HFRI Equity Market Neutral 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)

(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)

(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

Foreign Currency Hedging Research

*PRIM Investment Committee Meeting
Tuesday, July 21, 2015*

(This page was intentionally left blank.)



PENSION RESERVES
INVESTMENT
MANAGEMENT BOARD

Foreign Currency Hedging Research

***Presentation to PRIM Investment Committee
July 21, 2015***

By: Andre Clapp, Ph.D, CFA & Sarah Samuels, CFA

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



Foreign Currency (FX) Hedging: Scope of Research

Why hedge?	1)	Volatility (risk) reduction
	2)	Return enhancement
	3)	Removing the currency translation effect

Why focus on Developed Market (DM) currencies, and not Emerging Markets (EM)?

Over time, exposure to EM currencies has added significant value, 3.2% per year over the last 15 years, unlike DM currencies. Hedging EM currencies is prohibitively costly because of the large forward premiums that must be paid by the hedger, 4% per year today.

ASSET	\$ VALUE	% of PRIT
Developed Market Equity	\$10.65B	17%
20% of Private Equity	\$1.25B	2%
Total	\$11.9B	19%



FX Hedging: Summary of Findings

- ❑ Hedging FX may not add much value in terms of risk/return.
 - a) Return reduction greater than 1% per year since 1973.
 - b) Volatility reduction not that large.
- ❑ Cash losses can be significant on short time periods, requiring forced selling.
 - a) Quarterly losses can exceed \$1.5 billion, and must be paid in cash.
- ❑ Large monthly/quarterly cash flows are generated, creating:
 - a) Forced selling or buying of assets.
 - b) Associated transaction costs.
 - c) Need for structures to deal with cash flows.
- ❑ Costs and risks associated with hedging:
 - a) Transaction costs and fees that cannot be recouped.
 - b) Risk/cost of forced selling in a down market to cover hedging losses.
 - c) Counterparty and operational risks.
 - d) Accounting/financial reporting requirements.
 - e) Monitoring of positions and exposures.

RECOMMENDATION: Based on our analysis, it is difficult to make a strong argument in favor of currency hedging.



Hedging FX May Not Add Much Value in Terms of Risk/Return

1973-2014

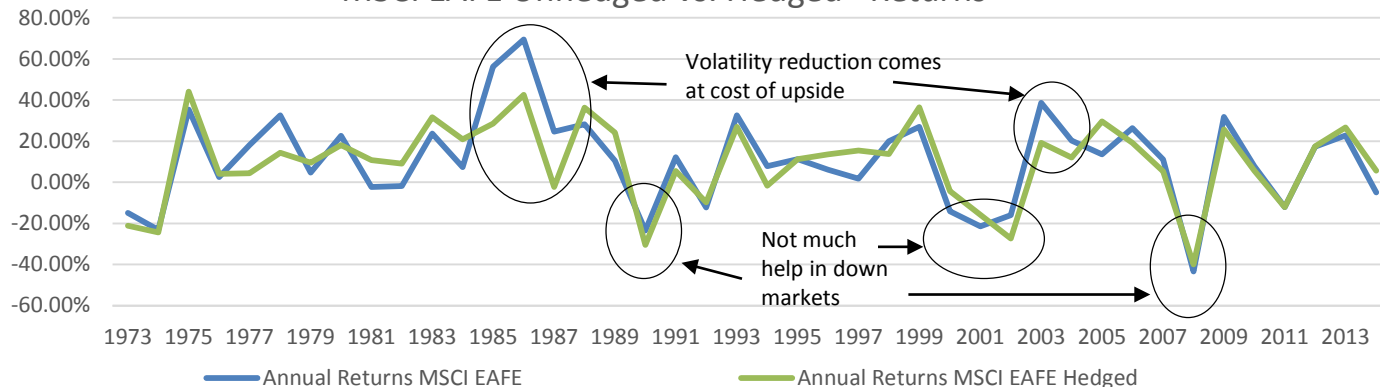
	MSCI EAFE	MSCI EAFE Hedged	Reduction
Annualized Total Return	8.5%	7.5%*	-12%
Annual Risk (Standard Deviation)	22.2%	19.9%	-10%

Sources: MSCI, Bloomberg, NEPC, PRIM Staff .

*Gross of trading costs and fees associated with FX hedging.

- ❑ Since 1973, hedging EAFE currencies has reduced returns by over 1% per year.
- ❑ The reduction in volatility does not make up for the reduction in return, and reduces the Sharpe ratio.
- ❑ The decision to hedge FX should be viewed in the context of the overall PRIT Fund.
 - The volatility of the Developed Non-US Equity portfolio can be diversified with other less correlated investments.
 - However, the loss of return cannot be recouped.

MSCI EAFE Unhedged vs. Hedged* Returns



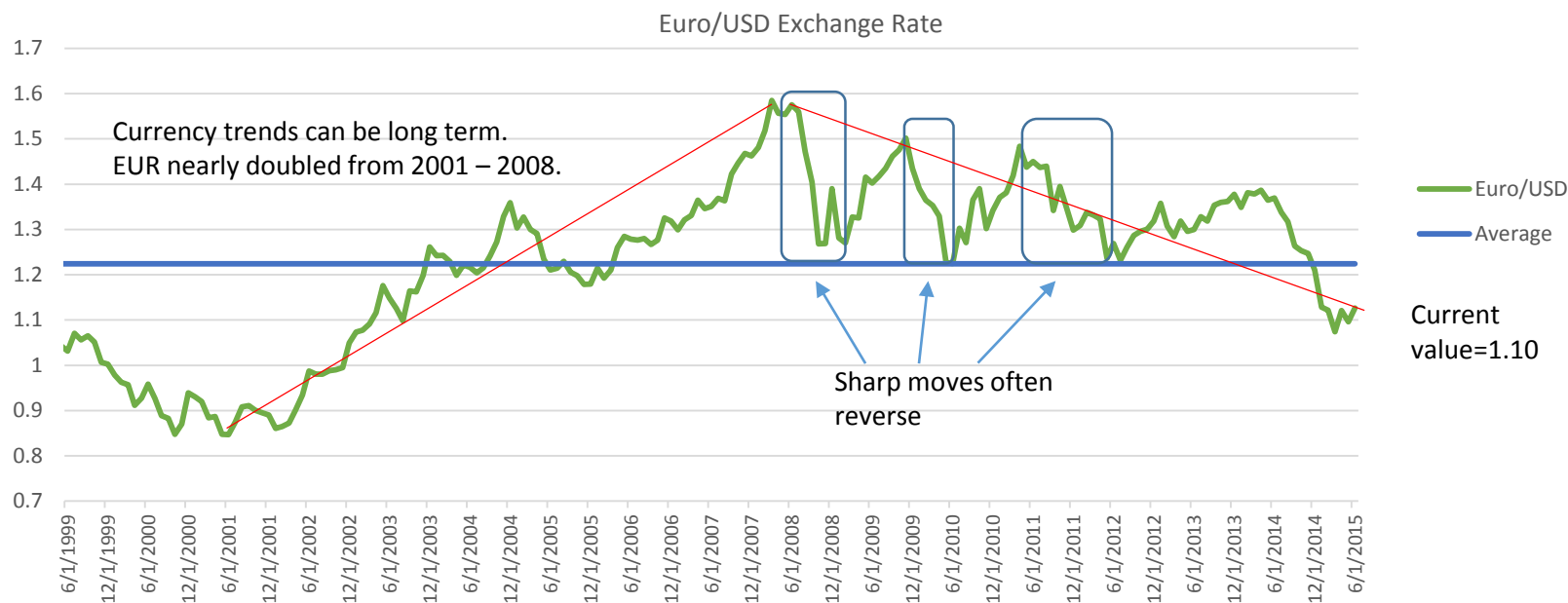
Sources: MSCI, Bloomberg, NEPC, PRIM Staff.

*From 1/1973 – 11/1988, EAFE Hedged returns are not available, and EAFE Local returns are used as a proxy.



Counter-Argument: We “Know” the USD Will Appreciate

- ❑ In order to argue for a currency hedge, one really needs to take a *macro perspective*.
 1. Japan and Europe have much more serious debt problems than the U.S.
 2. Demographics are much better in the U.S. than Japan or Europe.
 3. The USD has been in a strengthening trend since 2008. USD trends typically last 7-10 years.
- ❑ However, these factors may already be priced in. Purchasing Power Parity indicates the USD is overvalued. SSGA has a fair value for the Euro/USD of 1.29, and the Economist’s “Big Mac Index” recently indicated 1.35.



Sources: FactSet, PRIM Staff.



Cash Drawdowns/Losses Can Be Significant

EAFE Hedge since 1973 on \$11.9B portfolio				
	1m	3m	1y	3y
MAX LOSS (m)	\$ (1,192)	\$ (1,760)	\$ (3,517)	\$ (5,741)
MAX GAIN (m)	\$ 1,127	\$ 1,638	\$ 2,309	\$ 4,355

Sources: MSCI, Bloomberg, NEPC, PRIM Staff.

❑ Based on data since 1973, and assuming a full currency hedge:

- Monthly losses can exceed \$1 billion.
- Quarterly losses can exceed \$1.5 billion.
- Annual losses can exceed \$3 billion.
- Three year losses can exceed \$5 billion.

❑ Examples of historical losses:

- | | | | |
|------------------|------------------------------|-----------|------------------------------|
| ▪ Q3 2010 | Hedge loss = -8.5% (\$1.0B) | Q2 2002 | Hedge loss = -9.9% (\$1.2B) |
| ▪ 11/08 to 11/09 | Hedge loss = -14.1% (\$1.7B) | 2003 | Hedge loss = -14.7% (\$1.8B) |
| ▪ 2002-2004 | Hedge loss = -31.6% (\$3.8B) | 1985-1987 | Hedge loss = -48.3% (\$5.7B) |



Large Cash Flows Can Be Generated

Average Transaction Costs Due to Hedge Cash Flows: 1973 - 2014

MONTHLY		QUARTERLY	
Total Cost	Cost	Total Cost	Cost
Since 1973	per year	Since 1973	per year
\$ 350m	\$ 8.2m	\$ 220m	\$ 5.2m

Sources: MSCI, Bloomberg, NEPC, PRIM Staff.

- ❑ These calculations are based on the following assumptions:
 - Gains/losses on the currency hedge would be sourced from/invested in the public markets portfolio.
 - Estimated transaction cost for the public markets portfolio is 30 bps (source: Harbor Analytics).
- ❑ Since 1973, transaction costs related to currency hedging cash flows, assuming a quarterly rebalance, averaged \$5.2 million per year, but could be larger during any given time period.
- ❑ For example, Q3 '08 – Q2 '09 had a total of \$2.6B in cash flows with a transaction cost of \$7.7m.
- ❑ These transaction costs cannot be recouped.
- ❑ **Counter-Argument**
 - A large pool of cash could be held and equitized in the overlay account to collateralize possible losses from the currency hedge.
 - We estimate this collateral pool might need to be as large as \$2 billion.
 - This solution has a number of problems, including EAFE futures are not available at this scale, and there are still significant costs and risks (overlay management fee, futures transaction costs, allocating capital away from value-adding, high conviction managers).



Costs & Risks Associated with FX Hedging

- ❑ Costs:
 - Transaction costs.
 - Management fees.

- ❑ Risks:
 - Forced selling in down markets, or forced buying in up markets.
 - Counterparty risk.
 - Operational risk.
 - Accounting and financial reporting requirements.
 - Monitoring of positions and exposures.



FX Hedging: Conclusions

- ❑ Hedging FX may not add much value in terms of risk/return.
- ❑ Volatility reduction from FX hedging has come at the cost of reduced upside, but has not helped much on the downside.
- ❑ Cash losses can be significant requiring forced selling, possibly in down markets.
- ❑ Large monthly/quarterly cash flows are generated creating transaction costs.
- ❑ Costs and risks associated with hedging:
 - a) Forced selling or buying.
 - b) Transaction costs and fees that cannot be recouped.
 - c) Counterparty and operational risks.
 - d) Accounting/financial reporting requirements.
 - e) Monitoring of positions and exposures.

RECOMMENDATION: Based on our analysis, it is difficult to make a strong argument for currency hedging.



(This page was intentionally left blank.)