## **AGENDA**



Date: September 2, 2016

The regular meeting of the Dallas Police and Fire Pension System Board of Trustees will be held at 8:30 a.m. on Thursday, September 8, 2016, in the Second Floor Board Room at 4100 Harry Hines Boulevard, Dallas, Texas. Items of the following agenda will be presented to the Board:

#### A. MOMENT OF SILENCE

#### **B. CONSENT AGENDA**

#### 1. Approval of Minutes

- **a.** Regular meeting of August 11, 2016
- **b.** Special meeting of August 18, 2016
- 2. Approval of Refunds of Contributions for the Month of August 2016

- 3. Approval of Activity in the Deferred Retirement Option Plan (DROP) for September 2016
- 4. Approval of Estate Settlements
- 5. Approval of Survivor Benefits
- **6. Approval of Service Retirements**
- 7. Approval of Alternate Payee Benefits
- 8. Approval of Payment of Military Leave Contributions
- 9. Spouse Wed After Retirement (SWAR)

# C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. BTG Pactual portfolio review

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.072 of the Texas Government Code.

#### 2. Forest Investment Associates portfolio review

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.072 of the Texas Government Code.

# 3. NEPC: Second Quarter 2016 Investment Performance Analysis and First Quarter 2016 Private Markets & Real Assets Review

#### 4. Ad hoc annual adjustments for pensioners and beneficiaries

#### 5. Legal issues

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.071 of the Texas Government Code.

- **a.** Police Officer and Firefighter pay lawsuits
- **b.** Potential claims involving fiduciaries and advisors
- **c.** 2014 Plan amendment election and litigation
- **d.** Open records lawsuits
- e. Tax Qualification Plan Amendments

#### 6. Investment reports

#### 7. Possible Plan amendments

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.071 of the Texas Government Code.

- **a.** Discussion of, and possible action on, Plan amendments
- **b.** Tax Qualification Plan amendments
- **c.** Discussion of next steps
- 8. Ad hoc committee reports
- 9. 2016 Board/staff workshop

#### D. BRIEFING ITEMS

- 1. Reports and concerns of active members and pensioners of the Dallas Police and Fire Pension System
- 2. Executive Director's report
  - **a.** Future Education and Business Related Travel
  - **b.** Future Investment Related Travel

The term "possible action" in the wording of any Agenda item contained herein serves as notice that the Board may, as permitted by the Texas Government Code, Section 551, in its discretion, dispose of any item by any action in the following non-exclusive list: approval, disapproval, deferral, table, take no action, and receive and file. At the discretion of the Board, items on this agenda may be considered at times other than in the order indicated in this agenda.

At any point during the consideration of the above items, the Board may go into Closed Executive Session as per Texas Government Code, Section 551.071 for consultation with attorneys, Section 551.072 for real estate matters, Section 551.074 for personnel matters, and Section 551.078 for review of medical records.

## 2. Executive Director's report

- **a.** Future Education and Business Related Travel
- **b.** Future Investment Related Travel

The term "possible action" in the wording of any Agenda item contained herein serves as notice that the Board may, as permitted by the Texas Government Code, Section 551, in its discretion, dispose of any item by any action in the following non-exclusive list: approval, disapproval, deferral, table, take no action, and receive and file. At the discretion of the Board, items on this agenda may be considered at times other than in the order indicated in this agenda.

At any point during the consideration of the above items, the Board may go into Closed Executive Session as per Texas Government Code, Section 551.071 for consultation with attorneys, Section 551.072 for real estate matters, Section 551.074 for personnel matters, and Section 551.078 for review of medical records.



#### ITEM #A

## **MOMENT OF SILENCE**

## In memory of our Members and Pensioners who recently passed away

(August 3, 2016 – August 31, 2016)

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Ernest E. Coston	Retired	Fire	Aug. 5, 2016
William E. Chambers	Retired	Police	Aug. 11,2016
Jerry G. Pollard	Retired	Police	Aug. 26, 2016

#### Dallas Police and Fire Pension System Thursday, August 11, 2016 8:30 a.m. 4100 Harry Hines Blvd., Suite 100

# Second Floor Board Room Dallas, TX

Regular meeting, Samuel L. Friar, Chairman, presiding:

#### **ROLL CALL**

#### **Board Members**

Present at 8:30 Samuel L. Friar, Kenneth S. Haben, Joseph P. Schutz, Brian Hass, Tho

T. Ho, Gerald D. Brown, Clint Conway, John M. Mays

Present at 9:05 Philip T. Kingston, Jennifer S. Gates

Present at 9:43 Scott Griggs
Present at 11:35 Erik Wilson
Absent: None

Staff Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Corina

Terrazas, Damion Hervey, Kelly Dean, Pat McGennis, Ryan Wagner,

Milissa Romero, Christina Wu, Greg Irlbeck, Linda Rickley

Others Eric Calhoun, Ben Mesches, Karen Precella, Chuck Campbell, Wade

Cooper, David Moran, Stefan Smith, Mart Mitchell, Marc Larson, Rhett Humphreys (by telephone), Gloria V. Perez, Richard Perez, Dwight Walker, Dan Wojcik, Seth Terao, Gregory Dugger, Byron Fassett, Mark Sears, Tom Belcher, Ken Sprecher, Regina Joseph, Jerry M. Rhodes, Michael Bell, James Parnell, Ron Pinkston, Joseph Corden, Jaime Castro, Gerardo Guardiola, Steve Potrykns, Ernest Sherman, Jim Aulbaugh, Michael Igo, Robert Benitez, Richard Ewing, Rick Salinas, Jeff Grand, Elaine Maddox, Kaye J. Russell-Harris, Stephen Moddy, John D. Wells, Edward Scott, Bob Harrman, Tristan Hallman, Raul Carl, Natalie Solis, Susan Oakey, Kay Watson, Brett Shipp, Sarah Jackson

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The meeting was called to order at 8:30 a.m.

#### A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of active police officer Hans A. Campbell, retired police officers Auby R. Henson, Jack Y. Alvis and Don Atkins, and retired firefighters Charles R. Bailley, Richard L. Nunez, and Kenneth S. Buckley.

No motion was made.

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#### B. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of July 21, 2016

- 2. Approval of Refunds of Contributions for the Month of July 2016
- 3. Approval of Activity in the Deferred Retirement Option Plan (DROP) for August 2016
- 4. Approval of Estate Settlements
- 5. Approval of Survivor Benefits
- 6. Approval of Service Retirements
- 7. Approval of Five-Year Certificates for the Second Quarter 2016
- 8. Approval of Payment of Military Leave Contributions
- 9. Approval of Payment of DROP Revocation Contributions

After discussion, Mr. Brown made a motion to approve the items on the Consent Agenda, subject to the final review of the staff. Mr. Ho seconded the motion, which was unanimously approved by the Board.

## C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

#### 1. Legal issues

- **a.** Police Officer and Firefighter pay lawsuits
- **b.** Potential claims involving fiduciaries and advisors
- **c.** 2014 Plan amendment election and litigation

The Board went into a closed executive session – legal at 8:39 a.m.

The meeting was reopened at 9:12 a.m.

No motion was made.

**d.** CDK Realty Advisors LP v. Dallas Police and Fire Pension System

The Board went into a closed executive session – legal at 12:42 p.m.

The meeting was reopened at 1:21 p.m.

After discussion, Mr. Kingston made a motion to authorize the Executive Director and counsel to enter into a settlement agreement to resolve the pending litigation with CDK Realty Advisors and its principals. Mr. Brown seconded the motion, which was unanimously approved by the Board.

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#### 2. Spouse Wed After Retirement (SWAR)

The Board discussed a SWAR request previously considered at the June 9, 2016 meeting.

The Board went into a closed executive session – legal and medical at 4:54 p.m.

The meeting was reopened at 5:04 p.m.

No motion was made.

The meeting was recessed at 9:51 a.m.

The meeting was reconvened at 10:03 a.m.

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#### 3. Outside Counsel interviews and selection

- a. Fiduciary Counsel
- **b.** Tax Counsel

The Legal Search Sub-Committee previously conducted interviews for law firms to act as outside counsel to the Board. In particular, there is a need for outside counsel in the tax and fiduciary areas. After conducting the interviews, the Sub-Committee recommended that the Board hire the firm of Ice Miller, LLP, of Indianapolis, Indiana, to act as tax counsel.

For fiduciary counsel, the Sub-Committee proposed that the Board hire one of two firms, Jackson Walker, LLP or Locke Lord, LLP, both of whom are headquartered in Texas. The Board heard presentations from Jackson Walker, represented by Chuck Campbell and Wade Cooper, and from Locke Lord, represented by Stefan Smith.

After discussion, Mr. Haben made a motion to hire Jackson Walker, LLP as the outside fiduciary counsel to the Board. Mr. Hass seconded the motion, which was passed by the following vote:

For: Haben, Hass, Brown, Mays, Friar, Schutz, Ho, Conway, Gates

Against: Griggs, Kingston

Abstain: Wilson

Mr. Haben made a motion to hire Ice Miller, LLP as outside tax counsel to the Board. Mr. Brown seconded the motion, which was unanimously approved by the Board.

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The meeting was recessed at 11:39 a.m.

The meeting was reconvened at 11:49 a.m.

#### 4. Transition Management Services

Staff anticipates several changes to the investment portfolio as progress is made towards implementing the asset allocation defined by the Investment Policy Statement. Staff believes it is prudent to retain a transition management services provider to assist in the execution of current and potential future changes.

Mart Mitchell, Regional Director, and Marc Larson, Portfolio Manager, of Russell Investments, presented an overview of their firm's transition management services. Staff recommended that the Board engage Russell Investments to provide transition management services.

After discussion, Mr. Conway made a motion to engage Russell Investments to provide transition management services, and to authorize the Executive Director to negotiate and execute documentation, and perform all necessary acts and exercise all appropriate discretion to facilitate the foregoing. Mr. Mays seconded the motion, which was unanimously approved by the Board. Mr. Wilson was not present when the vote was taken.

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The meeting was recessed at 12:34 p.m.

The meeting was reconvened at 12:42 p.m.

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#### 5. Financial reports

Ms. Loveland presented the second quarter 2016 financial statements.

No motion was made.

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#### 6. Budget review for the first six months of Calendar Year 2016

Ms. Loveland presented the budget review for the first six months of the current calendar year. Actual expenses, net of expenses allocated to the Supplemental Plan, are approximately 5.6% below the prorated 6-month budget.

No motion was made.

#### 7. Investment reports

Staff reviewed the investment performance and rebalancing reports for the period ending July 31, 2016, with the Board.

No motion was made.

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#### 8. W. R. Huff Asset Management – W. R. Huff High Yield

The Board approved a new asset allocation at the March 10, 2016 Board meeting which increased the liquid fixed income allocation from 15% to 28% with a specific 5% sub-allocation to high yield. DPFP's current high yield managers are Loomis Sayles Global Opportunistic and W. R. Huff High Yield. The high yield sub-asset class is over-allocated by 1.3%. Staff and NEPC have reviewed both managers and discussed their recommendations with the Board.

After discussion, Mr. Conway made a motion to approve liquidating DPFP's holdings in W.R. Huff High Yield to bring the current allocation in line with the target allocation. Mr. Schutz seconded the motion, which was unanimously approved by the Board. Mr. Wilson and Mr. Griggs were not present when the vote was taken.

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The meeting was recessed at 3:08 p.m.

The meeting was reconvened at 3:19 p.m.

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#### 9. Possible Plan amendments

- **a.** Election Policy and process
- **b.** Long-Term Financial Stability Sub-committee recommendations for possible Plan amendments
- **c.** Discussion of possible Plan amendments

The Board went into a closed executive session – legal at 3:19 p.m.

The meeting was reopened at 4:03 p.m.

#### 9. Possible Plan amendments (continued)

The Long-Term Financial Stability Sub-committee, together with DPFP's actuary, Segal, and staff, reviewed the analysis of possible Plan changes and presented a recommendation to the Board for its consideration.

The Board discussed possible Plan changes.

No motion was made.

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#### D. BRIEFING ITEMS

Reports and concerns of active members and pensioners of the Dallas Police and Fire Pension System

The Board received comments during the open forum.

No motion was made.

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Conway and a second by Mr. Brown, the meeting was adjourned at 5:17 p.m.

ATTEST:	Samuel L. Friar Chairman
Kelly Gottschalk Secretary	

# Dallas Police and Fire Pension System Thursday, August 18, 2016 8:30 a.m. 4100 Harry Hines Blvd., Suite 100 Second Floor Board Room Dallas, TX

Special meeting, Samuel L. Friar, Chairman, presiding:

#### **ROLL CALL**

#### **Board Members**

Present at 8:30 Samuel L. Friar, Kenneth S. Haben, Joseph P. Schutz, Brian Hass, Tho

T. Ho, Gerald D. Brown, Clint Conway, John M. Mays

Present at 8:31 Jennifer S. Gates
Present at 8:46 Scott Griggs
Present at 8:56 Philip Kingston
Absent: Erik Wilson

Staff Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Corina

Terrazas, Damion Hervey, Pat McGennis, Ryan Wagner, Milissa

Romero, Greg Irlbeck, Carol Huffman

**Others** 

Jeff Williams, Michael Egan, Zia Uddin, R. Sean Duff, Rhett Humphreys, Richard Langley, Steven DeGroff, Steve Hollywood, Marcus Dollar, Linda Dollar, Mike Arnold, Doug Mallon, Willie Noel, Tom Caton, James M. Smith, Edwin R. Dresser, Deborah Hughbanks, Keith Caruso, David Beideck, Bill Ingram, Terry Roberts, Steve Carter, Thomas M. Payne, James Elliston, Gary Coleman, Roy Ferguson, Dan Wojcik, Smith Ribble, Edward Davis, Elida Acosta, Will Mixon, Hamp Patterson, William Murrell, Steve Potrykus, Bob Murdock, Tony L. Speck, Michael Tidwell, Bill Warrick, Leftwich Jones, Johnny Bates, Don Smith, Robert Hargrove, James E. Bates, Rowland Tucker, William Everett, Gloria Perez, Richard Perez, Clarrissia Chambers, Carlton Evans, Ray Lemasters, Bill Hornick, Marlin Price, Nathan O. Christopher, Tom Stark, Cindy Stark, Shbrone Mims, Karen Walker, Jeff Walker, Ken Sprecher, David Polls, Stanley Griffis, Eddie Douglas, Frank Ruspoli, Andrew G. Brown, Frankie Joe Losoya, Donald L. Barton, Robert Cummings, Lynn A. Curry, Howard Russell, Frank Varner, Gloria Broadnax, Michael Adamek, Ronnie Bratt, Chris Harry, Thomas Moorman, Luther Moore, Charles Hampton, Donald Robb, Roman Kilgore, David M. Greer, Carl C. Smith, Mary Lavender, Joel Lavender, Michael Yudizky, Nancy Hall, James C. Pearson, Pat Lewter, Greg Courson, Steven Corder, Alan Wammack, Jerry M. Rhodes, Donnie Graham, Ed McFadden, Marshall Cook, Roger D. Hetrick, Wes Johnson, Darrell Dugan, H. C. Stinson, David M. Thomas, Connie Steindorf, Steven Winters, Ray Gonzalez, A. D. Donald, Randy Hooper,

Others (continued) Eddie R. Higgins, Bobby Baughn, David E. Gibson, Brian Johnson, George D. Payne, John Moore, Charles E. Plumlee, Rick Salinas, Clarence Lockett, William E. Phillips, Leon Hullins, Ron Tucker, Dan Smith, Kenneth Cullins, Shelly G. Henderson, Mark E. Tyler, David Smith, Thomas White, Danny Millaway, Napoleon Tucker Jr., Judy Katz, Stuart L. Peterson, Geraldine White, Robert Neuman, W. James Brown, Lingburge Williams, Laura Martin, Murphy Rogers, Rick Brewer, Harold Varner, Richard Duggan, Johnny Rudder, Sallie J. Henderson, David Davis, Beth Sundquist, James R. Moore Jr., Kenneth L. Johnson, Ronnie E. Harris, Richard Ewing, Larry A. Lewis, Harold Symn, Edward Padilla, Antoinette Padilla, David Hill, Glen Bradshaw, Blaine Danyluk, Dwane C. Gidab, Mark Mladenka, Charles E. Gale, Angela Petrovic, Mike Ballance, David Diggs, H. Richard Andrews, Michael Bell, Keith Allen, Carol A. Berry, Jaime Castro, Jerry R. Ramage, Sr., John W. Carr, Doug Jones, Lisa Clayton, Nancy Webb, C. McDonnold, Ron Acker, Elton Garrett, Charles E. Luedeker, Ronnie T. Smith, Arthur P. Richardson, Tracy Landess, Rusty Morgan, Alan Southard, Rick Narramore, Russell Stephens, David Scott Tremain, Jean E. Tremain, Michael Cline, Helen Cline, George R. Scott, David Landry, Lyndon Britt, Danny W. Robinson, Claude Hight, Dennis Wilson, James H. Freeman, Larry Williams, Michael W. Jones, James Baker, Byron Fassett, Judy Richie, Steve Myers, Gregory L. Waddleton, Delridge Williams, Emory Nash, Gregory Dugger, Steve Davis, Roderick Janich, Aaron Anderson, Esteban Maldonado, Jim Aulbaugh, Randy Loboda, Ann T. Robinson, Jason Smith, Charles Hale, Sally D. Lannom, Steve Johnson, Luther J. Smith Jr., Rosemary R. Smith, Sheryl S. Scott, Octavio Saldana, Judith McGee, Diana S. Salinas, Kalon Cohen, Alex Garcia, Joseph M. Dunn, Joseph Allen, Harold Holland, Orlando Robinson, Dominique Artis, Tom Gamez, F.T. Duncan, C.M. Barney, James Parnell, Sherman Evans, Kevin Luper, John D. Wells, Diane Hetrick, Joe Alexander, John W. McKinney, Edward Scott, Byron Titsworth, Mario Valadez, Tristan Hallman, Michael Botsford, Andrea Rega, Tanya Eiserer

The meeting was called to order at 8:30 a.m.

## A. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

#### 1. Possible Plan amendments

- a. Election Policy and process
- **b.** Discussion of, and possible action on, Plan amendments
- **a.** The Executive Director reviewed the process for conducting an election as required by the Election Policy and the timeframes for a potential plan amendment election.
- **b.** The Long-Term Financial Stability Sub-committee, together with DPFP's actuary, Segal, and staff, presented the Sub-committee's recommendations for possible Plan Amendments on August 11, 2016. The Board continued the discussion of possible Plan amendments.

The Board went into a closed executive session – legal at 8:31 a.m.

The meeting was reopened at 10:22 a.m.

After discussion, Mr. Kingston made a motion to authorize Segal to calculate the effect of a phase-in of member contributions up to 14 percent. Mr. Griggs seconded the motion, which passed by the following vote:

For: Kingston, Griggs, Mays, Friar, Gates, Haben Against: Brown, Conway, Hass, Ho, Schutz

Mr. Griggs made a motion to make all Plan amendment provisions unconditional except for an increase in the multiplier for members hired after February 28, 2011, and increases in contribution rates for all members over 9%. Mr. Kingston seconded the motion, which was unanimously approved by the Board.

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The meeting was recessed at 11:46 a.m.

The meeting was reconvened at 12:41 p.m.

#### 1. Possible Plan amendments (continued)

**b.** Discussion of, and possible action on, Plan amendments (continued)

The Board went into a closed executive session – legal at 2:08 p.m.

The meeting was reopened at 2:52 p.m.

No motion was made.

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#### 2. Monroe Capital Private Credit Fund II LP

As part of the new asset allocation policy and the Private Equity and Private Credit pacing plans, the Board approved a 5% allocation to private credit and \$30 million commitment to 2016 vintage year private credit funds. Year to date, DPFP has made a \$10 million commitment to Riverstone Credit Partners LP as part of the \$30 million commitment. As of June 30, 2016, the actual allocation to private debt strategies is approximately \$95 million, or 3.5%, of DPFP's investment portfolio relative to the 5% target.

Staff recommended that the Board approve a commitment of \$10 million to the Monroe Capital Private Credit Fund II LP levered vehicle.

After discussion, Mr. Griggs made a motion take no action at this time. Ms. Gates seconded the motion, which was passed by the following vote:

For: Griggs, Gates, Mays, Friar, Schutz, Ho, Conway, Haben, Kingston Against: Brown, Hass

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#### 3. Possible revisions to the Board's Budget Adoption Policy

Staff discussed proposed revisions to the Budget Adoption Policy as a result of the termination of the Administrative and Audit Advisory Committee (AAAC) at the May 12, 2016 Board meeting.

After discussion, Mr. Brown made a motion to approve the Budget Adoption Policy as amended. Mr. Griggs seconded the motion, which was unanimously approved by the Board.

#### 4. Investment reporting - Maples Fund Services

The Board approved hiring Maples Fund Services in October, 2015 and they were subsequently engaged to provide the Board and staff (i) monthly investment reports, (ii) investment manager transparency reports and (iii) support for ad-hoc reports based on DPFP investment data. James Perry, the former CIO who resigned from DPFP effective July 19, 2016, began working at Maples effective July 26, 2016.

The Board of Trustees and Staff Statement of Ethics, Section J, states:

A Trustee or Employee who leaves the service or employment of the System may not, within twelve (12) months after leaving that service or employment, represent any other person or organization in any formal or informal appearance before the System concerning a project for which the person had responsibility or material involvement as a Trustee or Employee. Moreover, the System will not enter into or renew an existing contract with any entity or any affiliate of any entity during that twelve (12) month period of such Trustee or Employee leaving the service or employment by the System if such entity employs or is represented by the former Trustee or Employee unless the Trustees determine that such a restriction would not be in the System's best interest.

The existing contract with Maples is a month-to-month contract, but the pricing will increase upon the 1-year anniversary as of October 20, 2016. Staff plans to review the current Maples services, as well as performance reporting alternatives, at the Annual Board Workshop in October.

After discussion, Mr. Schutz made a motion to proceed with the planned review of performance reporting services, including Maples Fund Services, at the Workshop in October. Mr. Brown seconded the motion, which was unanimously approved by the Board.

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#### 5. 2016 Board/staff workshop

Staff discussed the workshop plans with the Board.

No motion was made.

#### 6. Ad hoc committee reports

Reports were given.

No motion was made.

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#### 7. Board Members' reports on meetings, seminars and/or conferences attended

Reports were given on the following meetings. Those who attended are listed.

a. Society of Pension Professionals

Mr. Schutz

**b.** Wharton: International and Emerging Market Investing

Messrs. Ho, Hass

c. Pension Review Board Meeting

Mr. Schutz, Ms. Gottschalk

d. TEXPERS Basic Trustee Training Class

Messrs. Friar, Haben, Ho, Mays, Brown

e. TEXPERS Summer Educational Forum

Messrs. Friar, Haben, Ho, Conway, Mays, Brown

No motion was made.

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#### 8. Chief Investment Officer position

No discussion was held.

No motion was made.

The meeting was recessed at 2:53 p.m.

The meeting was reconvened at 2:59 p.m.

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#### 9. Personnel

To discuss the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of public officer or employee: (i) Chief Financial Officer and (ii) General Counsel. Portions of the discussion under this topic may be closed to the public under the terms of Section 551.074 of the Texas Government Code.

The Board went into a closed executive session – personnel at 2:59 p.m.

The meeting was reopened at 3:05 p.m.

No motion was made.

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#### **B.** BRIEFING ITEMS

1. Reports and concerns of active members and pensioners of the Dallas Police and Fire Pension System

The Board received comments during the open forum.

No motion was made.

#### 2. Executive Director's report

- a. Future Education and Business Related Travel
- **b.** Future Investment Related Travel
- c. Associations' newsletters
  - NCPERS Monitor (July 2016)
  - NCPERS Monitor (August 2016)
  - TEXPERS Outlook (August 2016)
  - TEXPERS Pension Observer (Summer 2016)

The Executive Director's report was presented. No motion was made.

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Brown and a second by Mr. Mays, the meeting was adjourned at 3:05 p.m.

	Samuel L. Friar
	Chairman
ATTEST:	
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Kelly Gottschalk	
Secretary	



#### **DISCUSSION SHEET**

#### ITEM #C1

**Topic:** BTG Pactual portfolio review

Portions of the discussion under this topic may be closed to the public under the terms of

Section 551.072 of the Texas Government Code.

**Attendees:** Bob Hagler, Head of Investment Strategy and International Portfolio Manager

Jim McBride, Head of Distribution

**Discussion:** BTG Pactual, who manages an \$80 million portfolio of domestic and international timber for

DPFP, will be present to review the portfolio and discuss their hold-sell recommendations on the portfolio with the Board. The target allocation for Natural Resources (Timber/Agriculture) was lowered from 10% to 5% in the recent asset allocation update. Based on this change, at Staff's direction, BTG has conducted a hold-sell analysis on a property-by-property basis, with the goal of reducing the size of the portfolio and ensuring that any properties that will remain in the portfolio meet or exceed risk-adjusted return expectations for the asset class. NEPC will

be available to discuss the presentation and provide their recommendation.



# Dallas Police and Fire Pension System ("Dallas")

Timberland Portfolio Review September 8, 2016



## Section 1

BTG Pactual and Timberland Investment Group (TIG) Overview

## BTG Pactual Business Verticals & Key Financial Data

#### **Key Business Verticals**<sup>(1)</sup>

#### **Wealth Management**

- Brazil's leading UHNW adviser<sup>(2)</sup>
- US\$ 104 billion of AUM
- Access to leading entrepreneurs, wealthy families and business owners in the region

#### **Investment Banking**

- Largest independent IB in LatAm
- Leading franchise in M&A and capital markets in Brazil
- #1 equity Research House for Brazil and LatAm<sup>(3)</sup>

#### Asset Management<sup>(4)</sup>

- US\$ 38 billion in AUM
- Complete range of products in LatAm:
  - Equities and Fixed Income
  - Private Equity, Infrastructure,
     Real Estate, Natural
     Resources and Timberland

#### Highlights<sup>(1)</sup>

Revenues (Trailing Twelve Months)	Net Income (Trailing Twelve Months)		ROAE (1Q2016 Annualized)
US\$ 3.2 billion	US\$ 1.4 billion		18.8%
Shareholders' Equity	BIS Capital Ratio		Total Assets
US\$ 6.5 billion	15.5%		US\$ 66.0 billion



## **BTG Pactual Asset Management**

Leading Latin American asset manager and world class global markets manager with US\$ 38 billion in assets (1,2)



Liquid Strategies: US\$ 15 billion(1)

Illiquid Strategies: US\$ 11 billion(1)

Other<sup>(1)</sup>

**Equities** 

**Fixed Income** 

**Hedge Funds** 

Infrastructure

**Real Estate** 

Timberland (US\$ 3 billion)

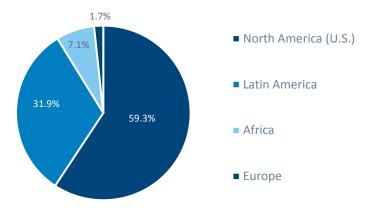
**Private Equity** 

Fund Services (US\$ 12 billion)

### **TIG Overview**

- TIG is one of the largest timberland managers globally<sup>(1)</sup>:
  - Nearly US\$ 3 billion in assets and commitments<sup>(2)</sup>
  - 1.7 million acres under management<sup>(2)</sup>
  - Geographic diversity with assets throughout the U.S., Latin America, Eastern Europe and South Africa
  - FSC<sup>(3)</sup>, CERFLOR<sup>(4)</sup> and Tree Farm<sup>(5)</sup> certified
  - Executed more than 225 transactions since inception
  - Returned more than US\$ 1.6 billion to investors since inception
  - Combined 800 years of investment, agribusiness and timberland management experience
  - BTG Pactual and TIG operate under the U.N. Principles for Responsible Investment (PRI)<sup>(6)</sup>

#### **Timberland Assets Snapshot**





## **TIG Portfolio**

## 1.7 million acres under management across a globally diversified platform<sup>(1)</sup>

U.S. Portfolio			Latin Amer	ican Portfolio
Acres	1,033,448	+	Acres	489,250
Hectares	418,223	_	Hectares	197,993

	Eastern European Portfolio		
+	Acres	29,624	
	Hectares	11,989	

South African Portfolio			
Acres	125,072		
Hectares	50,615		

BTG Pactual Portfolio		
1,677,394		
678,820		

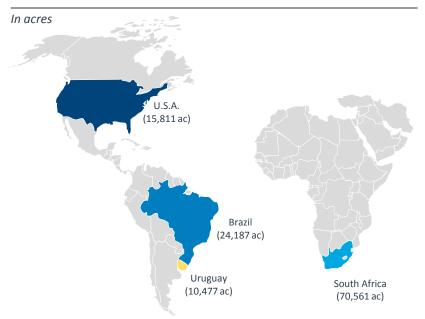




## Dallas Timberland Portfolio Overview

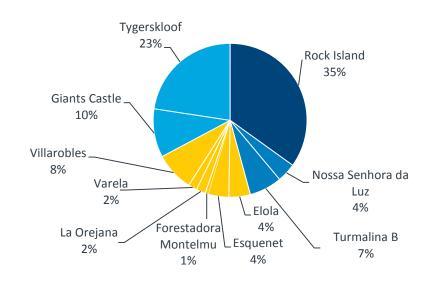
	Performance Metrics (net of administrative costs and management fees)			
Fund <sup>(1)</sup> Returns	Since-Inception IRR <sup>(2,3)</sup> 1Q2016	Since-Inception TWR <sup>(3,4)</sup> 1Q2016	TVPI <sup>(5)</sup> 1Q2016	Distributions to Date
Real	-3.7%			
Nominal	-2.3%	2.0%	0.7x	\$9.5M

#### **Investment Location**



#### **Investment Allocation by 1Q2016 FMV**

In % of total FMV at 1Q2016





Notes:

<sup>&</sup>quot;Fund" is defined as Criollo Madera, LLC, a company wholly owned by Dallas; all Dallas timberland investments have been made directly or indirectly through Criollo Madera, LLC and its subsidiaries Internal Rate of Return (IRR) net of administrative costs and management fees, in Fund currency (US\$) as reported in quarterly reports

Inception date of Nov. 2006 for Criollo Madera, LLC (9.38 years)

Time-Weighted Return (TWR), in Fund currency (US\$), net of administrative costs and management fees
Total Value to Paid In: ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date



# Appendix A

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#### **DISCUSSION SHEET**

#### ITEM #C2

**Topic:** Forest Investment Associates portfolio review

Portions of the discussion under this topic may be closed to the public under the terms of

Section 551.072 of the Texas Government Code.

**Attendees:** Dr. Mike Clutter, Vice President Director of U.S. Investments and Operations

Jon Sokol, Portfolio Manager

Jon Callaghan, Senior Relationship Manager

**Discussion:** Forest Investment Associates (FIA), who manages a \$44 million portfolio of domestic timber

for DPFP, will be present to review the portfolio and discuss their hold-sell recommendations on the portfolio with the Board. The target allocation for Natural Resources (Timber/Agriculture) was lowered from 10% to 5% in the recent asset allocation update. Based on this change, at Staff's direction FIA has conducted a hold-sell analysis on a property-by-property basis, with the goal of reducing the size of the portfolio and ensuring that any properties that will remain in the portfolio meet or exceed risk-adjusted return expectations for the asset class. NEPC will be available to discuss the presentation and provide their

recommendation.

# Timberland Portfolio Review

## Dallas Police & Fire Pension Fund

September 8<sup>th</sup>, 2016



## Agenda

- Forest Investment Associates Introduction & Update
- Market Update
- Why Timber?
- Portfolio Update



Firm Update

### \$4.9 Billion Timberland Assets Under Management

- 19 separate account clients & 5 commingled funds
  - Fund 5, "Growth & Value", closed February 2016 at ~ \$385 MM

### 2.5 Million Acres of Timberland

### Employee Ownership

- 57 staff members (49 shareholders)
- 25 professional foresters (16 with advanced degrees)

### Headquartered in Atlanta, GA

• Field offices in Georgia, Pennsylvania, Mississippi, Washington, Brazil and Mexico

### Recent Organizational Changes Effective February 1st, 2016

- L. Michael Kelly Chairman of the Board & Investment Committee
- Marc A. Walley President and Executive Committee Chairman
- Michael L. Clutter, Ph.D. Vice President and Director of U.S. Investments & Operations



International Update

### Heavy Resource Allocation Since 2009 to Build Out FIA's International Capabilities

- Cross-functional team across all FIA working groups
- Manage ~175k total acres in three Brazilian states in both pine and eucalyptus
- Newly committed human resources
  - Ricardo Boaventura (2013)
  - Juan Pablo Lankenau (2015)

### Opened FIA's LatAm Headquarters in São Paulo in 2013

### Globally Experienced

- Ability to meet client portfolio objectives
- Expertise and understanding of Southern Africa, Australia,
   New Zealand & other global investment regions





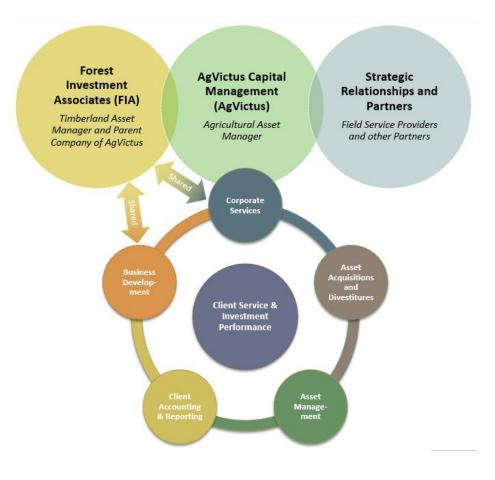
Firm Update - AgVictus



# Board of Directors Forest Investment Associates Timberland Asset Manager Agricultural Asset Manager

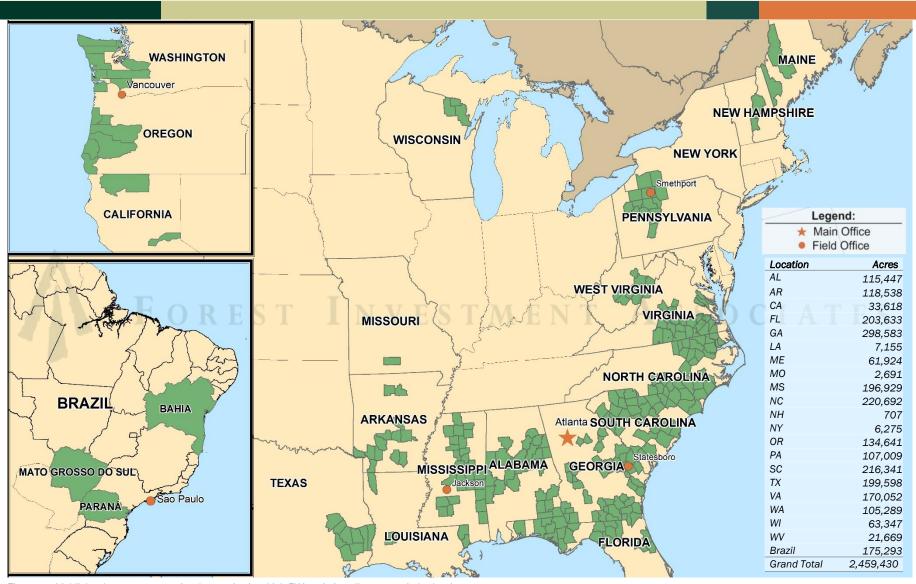
### **AgVictus History**

- First Agricultural Investment 2008
- 🍕 Total AUM \$100+ million
- Current investments include a mix of multiple permanent, semi-permanent and annual crops





Firm Overview - 2,459,430 Acres Under Management



The areas highlighted represent counties / countries in which FIA's existing clients own timberland. As of June 30th, 2016



### Market Update

End Use Markets - Housing

# New Home Inventories are at Historic Lows

- Inventory of new homes for sale is rising from extreme low
- Current level is much lower than any other cyclical low of the last 40 years





# U.S. Housing Starts Expected to Remain Below Underlying Demand Until ~2017

- Housing sector is considered to be significantly underbuilt
- Pent-up demand will be a key driver of housing starts over the next 5 years

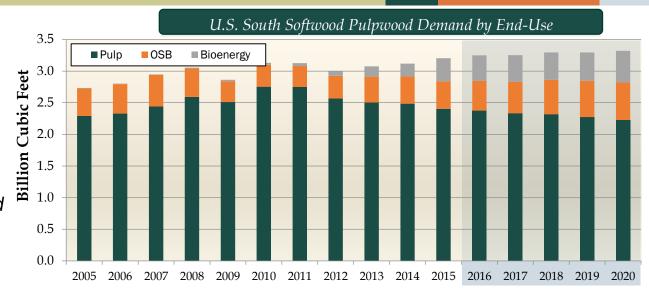


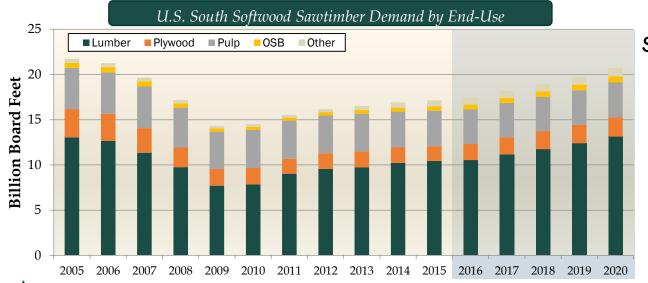
### Market Update

Timber Demand - U.S. South

### Demand for Pulpwood Improves

- Demand for pulpwood by the OSB industry will expand as capacity increases
- Growth in bioenergy, specifically wood pellets, will bolster pulpwood demand





### Sawtimber Demand Remains Depressed

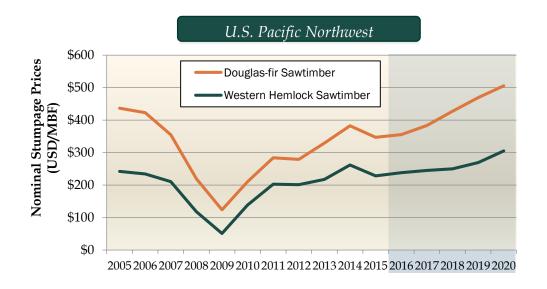
- Stronger housing should drive production increase from domestic mills
- Significant investments in regional solid wood capacity and greater production will improve timber demand

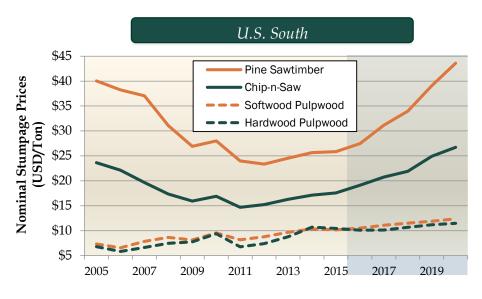


Source: Forest Economic Advisors

### Market Update

Price Outlook





# Log Prices Expected to Remain Flat in the Near Term

- Weak domestic demand and declines in log export markets will limit price increases in the near term
- Long term export markets show signs of strengthening

### Recovery in U.S. South is Protracted

- Demand for logs will increase as residential construction sector gains momentum
- Accumulated deferred harvests will limit price increases in the near term



### Why Timber?

Summary of Benefits: Cash Yield, Inflation Protection, Low Correlation, Attractive Returns

### Benefits of Timberland in a Portfolio

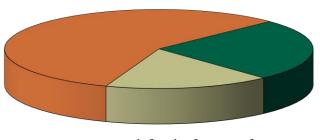
- · Inflation Protection
- Biological Growth Driven Diversification
- Attractive Risk-Adjusted Returns
- Tangible Real Asset Driven Yield:
  - Harvests and land sales provide cash flows

### Inflation Protection

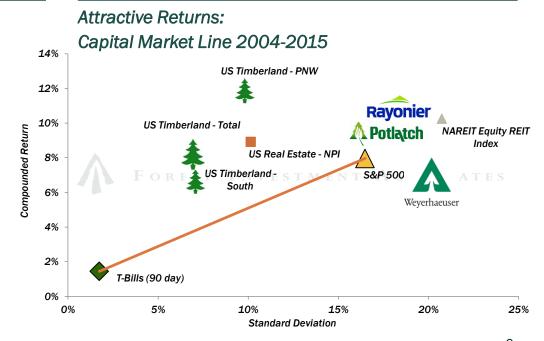
- Biological growth is the primary driver of returns, providing inflation protection
- · Low correlation with financial markets
- · Positive inflation correlation

### Biological Growth Provides Low Correlation

Return Drivers of a Timberland Investment



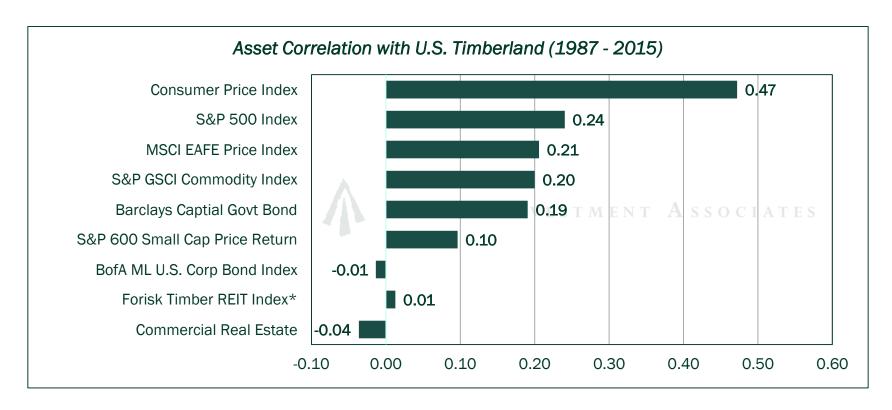
- ■~57% Biological Growth
- ■~25% Timber Prices
- □~17% Timberland Prices





### Why Timber?

### U.S. Timberland Correlation

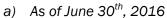


<sup>\*</sup>Forisk Timber REIT Index available for 2000-2015. All correlations are with NCRIEF Timberland Index.

### DP&F Timberland Portfolio Map

24,329 acres under management <sup>a</sup>







### **DP&F Portfolio Summary**

As of 6/30/16

### **Account Details:**

• Inception: 1992

Net Asset Value: \$44,261,286 a

Portfolio: 24,329 acres - 7 properties in 5 states

Since Inception

### **Key Financial Metrics:**

• Net IRR 7.98% b

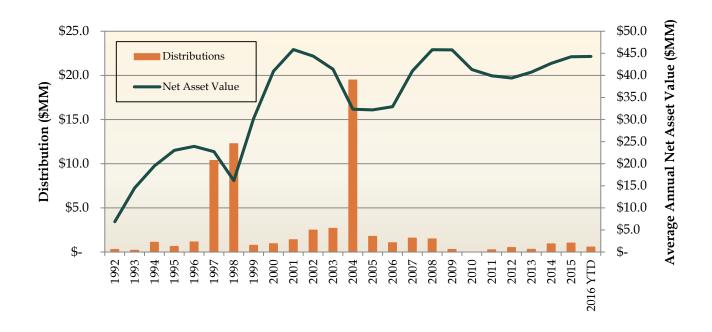
Total Contributions \$59.7 million

Total Distributions \$63.3 million

- a) Includes cash, cash equivalents and liabilities
- b) Annualized dollar-weighted IRR, net of fees, since inception

### **DP&F Distributions**

Distributions - 1992 through 2016 YTD



### **Distribution Summary**

- Timber Sales \$26.3 million
- Management Unit & Retail Dispositions \$37.8 million



### **DISCUSSION SHEET**

### ITEM #C3

Topic: NEPC: Second Quarter 2016 Investment Performance Analysis and First Quarter 2016

**Private Markets & Real Assets Review** 

**Attendees:** Rhett Humphreys, Partner

Michael Yang, Research Consultant

**Discussion:** NEPC, DPFP's investment consultant, will present the above reports.





### **Dallas Police & Fire Pension System**

Investment Summary - Abbreviated Report
Quarter Ending June 30, 2016

September 8, 2016

Rhett Humphreys, CFA Partner

Keith Stronkowsky, CFA Senior Consultant



### NEPC Updates

June 30, 2016

### **Highlights of Second Quarter Happenings at NEPC**

#### **NEPC Research**

### **Recent White Papers**

- "Thinking Ahead to Stay Ahead: Strategic Private Equity Investing in Healthcare" (April 2016)
- Market Chatter: "Implications of Brexit" (June 2016)
- Market Chatter: "Brexit... What Now?" (June 2016)
- "The Disease of Doubt" (July 2016)

#### Webinar

• "Brexit - A Vote for Volatility" (June 2016); Panel provides perspectives on the EU Referendum.

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### NEPC's 21st Annual Investment Conference

"Excellent breadth of materials, plenty of concurrent sessions, and the speakers were vibrant and humorous!" is just one of many positive reviews from attendees. The conference attracted more than 200 people to the Hynes Convention Center in Boston on May 10-11, 2016.

### **News from NEPC**

We are excited to announce NEPC's active presence on five social media channels: Facebook, Google+, LinkedIn, Twitter and YouTube, and we will continue to post on the Endowments and Foundations Twitter. We will be using these online channels to share company news, information and articles throughout the industry. Those interested in keeping up with the latest news from NEPC can follow our accounts. Company

news and industry insights will continue to be available on our website, which has been updated with a new optimized search feature.









### **Upcoming Events**

NEPC's 22<sup>nd</sup> Annual Investment Conference will be held on May 9-10, 2017 at the InterContinental Hotel in Boston, MA. MARK YOUR CALENDAR!

### **NEPC Client Recognitions**

We are pleased to announce that three of NEPC's public fund clients won Institutional Investor (II) Awards.

- Arn Andrews, CIO of San Jose Police & Fire, won the award for Chief Investment Officer of the Year.
- Sam Masoudi, CIO of Wyoming Retirement System, won the award for Opportunistic Investment Strategies Award.
- Bob Jacksha, CIO of New Mexico Employees Retirement Board, won the award for Portfolio Construction.

We are also pleased to announce that two NEPC clients, **San Bernardino County Employees' Retirement System** and **Arizona Public Safety Personnel Retirement System**, were nominated for Institutional Investor magazine's 14th Annual Hedge Fund Industry Awards in the "Public Plan of the Year, Small" category.



# Q2 2016 Market Update

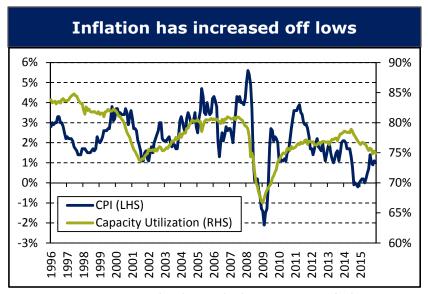
### Index Performance Summary as of 6/30/2016

	2009	2010	2011	2012	2013	2014	2015	Q1	APRIL	MAY	JUNE	Q2	YTD
Barclays US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	11.4%	-0.9%	1.5%	9.0%	9.6%	22.0%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	-4.2%	11.0%	2.5%	5.1%	19.7%	14.7%
Barclays US Govt/Credit Long	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	7.3%	1.2%	0.3%	4.9%	6.5%	14.3%
JPM GBI-EM Global Div (LC)	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	11.0%	2.6%	-5.4%	5.9%	2.7%	14.0%
Barclays US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	6.8%	2.4%	0.0%	4.2%	6.7%	13.9%
FTSE NAREIT Equity REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	6.0%	-2.4%	2.4%	7.0%	7.0%	13.4%
Bloomberg Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	0.4%	8.5%	-0.2%	4.1%	12.8%	13.3%
Citi WGBI USD	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	7.1%	1.3%	-1.5%	3.7%	3.4%	10.7%
JPM EMBI Global Div (HC)	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	5.0%	1.8%	-0.2%	3.4%	5.0%	10.3%
Barclays US Corporate HY	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	3.4%	3.9%	0.6%	0.9%	5.5%	9.1%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	5.7%	0.5%	-3.7%	4.0%	0.7%	6.4%
Barclays US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	3.0%	0.4%	0.0%	1.8%	2.2%	5.3%
Barclays Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	1.7%	0.7%	0.3%	1.6%	2.6%	4.3%
Credit Suisse Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	1.3%	1.9%	0.9%	0.0%	2.9%	4.2%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	0.4%	1.5%	2.1%	0.0%	3.6%	4.0%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	1.3%	0.4%	1.8%	0.3%	2.5%	3.8%
Barclays US Agg Interm	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.3%	0.2%	0.0%	1.2%	1.4%	3.8%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	1.2%	0.5%	1.8%	0.2%	2.5%	3.7%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	-1.5%	1.6%	2.3%	-0.1%	3.8%	2.2%
BC US Govt/Credit 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.0%	0.1%	-0.1%	0.6%	0.7%	1.7%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	0.2%	1.5%	0.1%	-0.6%	1.0%	1.2%
Credit Suisse Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	-2.2%	0.3%	0.4%	N/A	N/A	-1.5%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-3.0%	2.9%	-0.9%	-3.4%	-1.5%	-4.4%

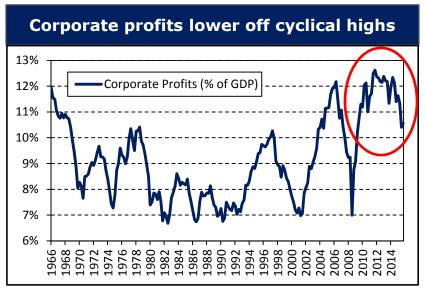
Source: Morningstar Direct



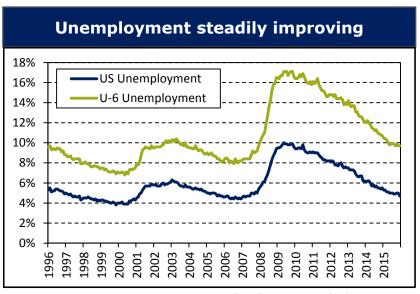
### US Economic Indicators



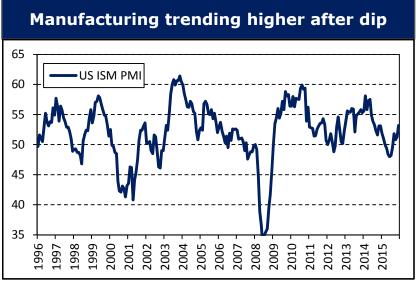
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics



Source: Bloomberg, Bureau of Economic Analysis



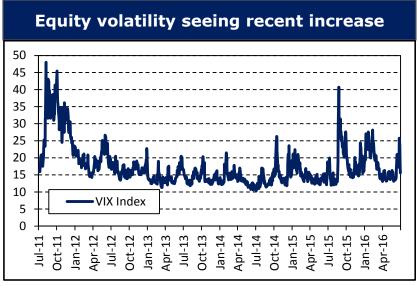
Source: Bloomberg, Bureau of Labor Statistics



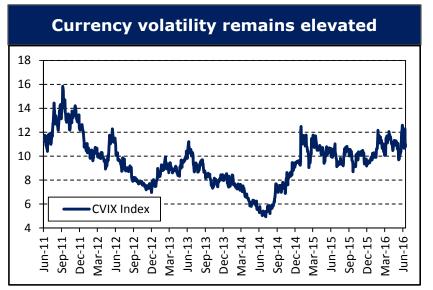
Source: Bloomberg, Institute for Supply Management



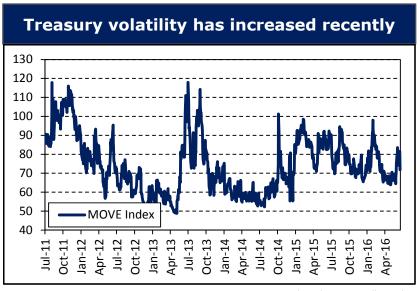
### Volatility



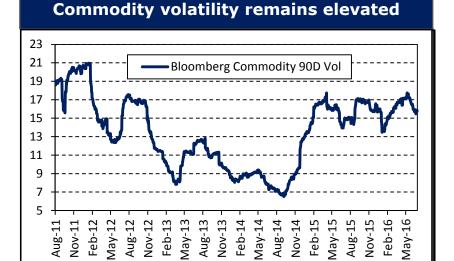




Source: Bloomberg, Deutsche Bank



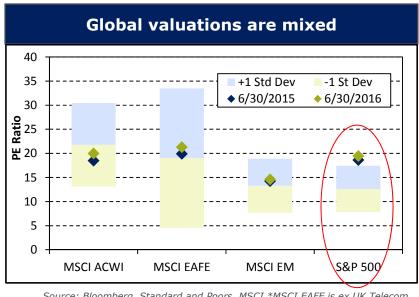
Source: Bloomberg, Merrill Lynch



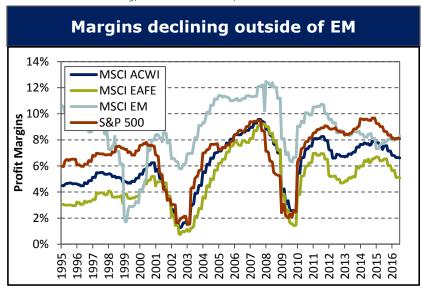
Source: Bloomberg, Merrill Lynch



### Global Equity



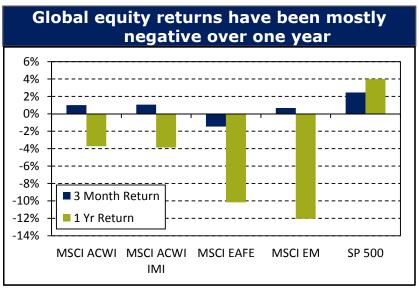
Source: Bloomberg, Standard and Poors, MSCI \*MSCI EAFE is ex UK Telecom



Source: Bloomberg, MSCI



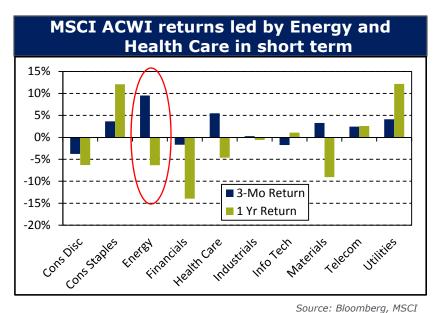
Source: Bloomberg, Standard and Poors, MSCI

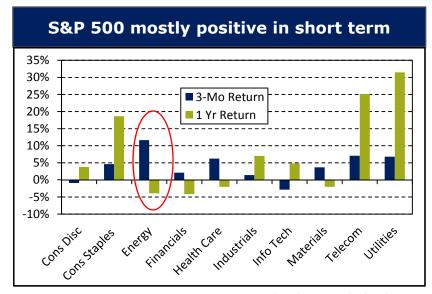


Source: Bloomberg, MSCI

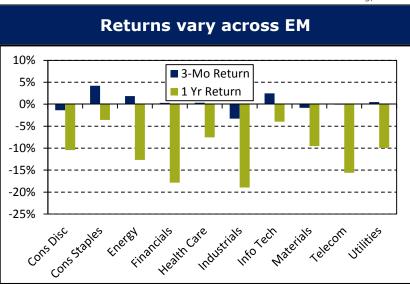


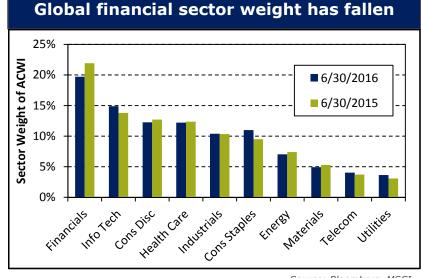
### Global Equity by Sector





Source: Bloomberg, Standard and Poors



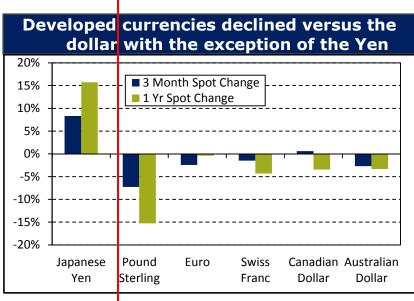


Source: Bloomberg, MSCI

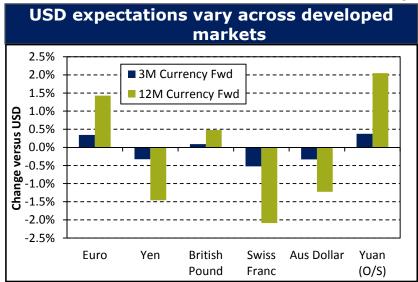




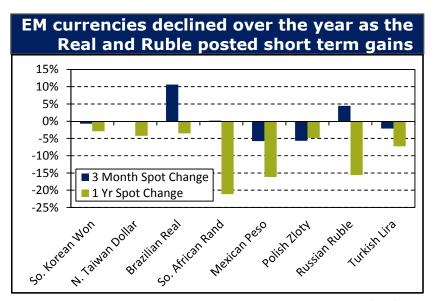
### Currencies



Source: Bloomberg



Source: Bloomberg



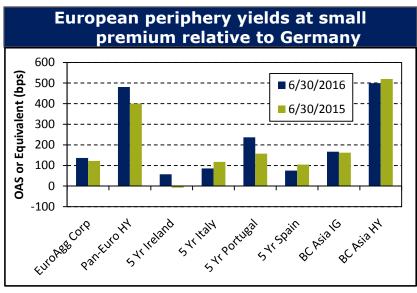
Source: Bloomberg



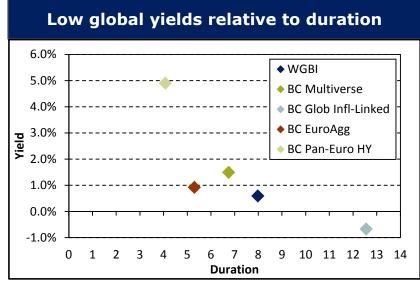
Source: Bloomberg, Federal Reserve



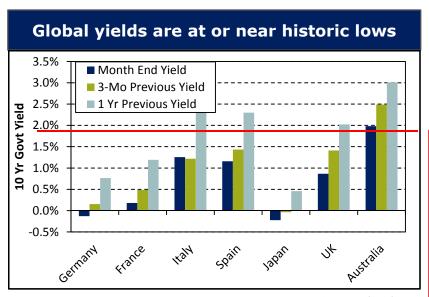
### International Developed Fixed Income



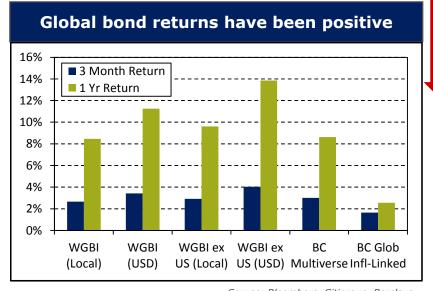
Source: Barclays, Bloomberg, \*European periphery spreads are over equivalent German Bund



Source: Bloomberg, Citigroup, Barclays



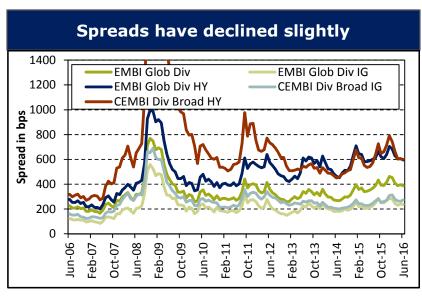
Source: Bloomberg



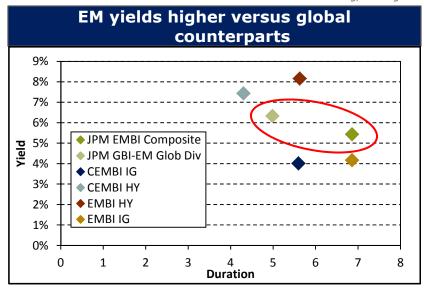
Source: Bloomberg, Citigroup, Barclays



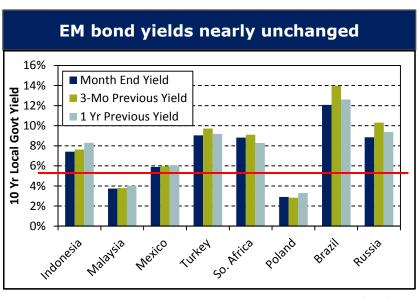
### Emerging Markets Fixed Income



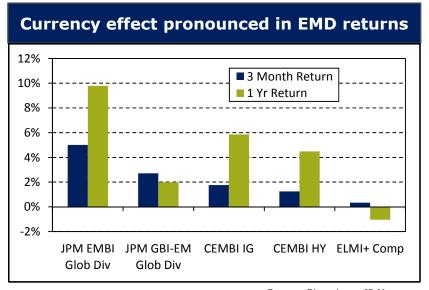




Source: Bloomberg, JP Morgan



Source: Bloomberg



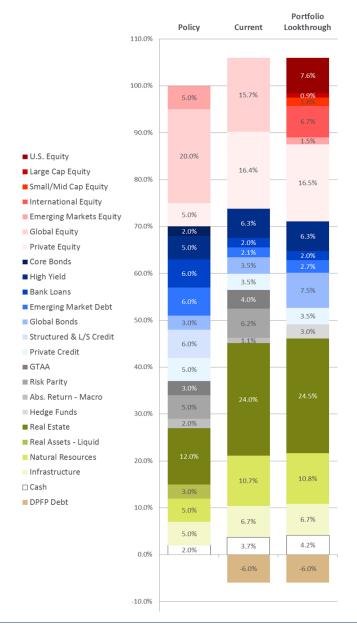
Source: Bloomberg, JP Morgan



### **Q2 2016 Performance & Asset Allocation**



### Total Plan – Net of Fees



### Asset Allocation vs. Target

E q u i	U.S. Equity Large Cap Equity Small/Mid Cap Equity International Equity	<u>Current</u>	Policy	Current	Portfolio <u>Lookthrough</u> 7.6% 0.9% 1.8% 6.7%
t	Emerging Markets Equity		5.0%		1.5%
У	Global Equity	\$421,523,568	20.0%	15.7%	0.0%
	Private Equity	\$440,025,444	5.0%	16.4%	16.5%
F	Core Bonds		2.0%	0.0%	0.0%
i	High Yield	\$167,874,244	5.0%	6.3%	6.3%
e	Bank Loans	\$52,843,834	6.0%	2.0%	2.0%
d	Emerging Market Debt	\$57,567,748	6.0%	2.1%	2.7%
1	Global Bonds	\$93,594,220	3.0%	3.5%	7.5%
n	Structured & L/S Credit		6.0%	0.0%	0.0%
С	Private Credit	\$93,186,707	5.0%	3.5%	3.5%
	GTAA	\$106,889,473	3.0%	4.0%	0.0%
G A	Risk Parity	\$166,460,894	5.0%	6.2%	0.0%
А	Abs. Return - Macro	\$30,435,360	2.0%	1.1%	0.0%
	Hedge Funds			0.0%	3.0%
R	Real Estate	\$641,557,717	12.0%	24.0%	24.5%
е	Real Assets - Liquid		3.0%	0.0%	0.0%
a	Natural Resources	\$287,476,331	5.0%	10.7%	10.8%
·	Infrastructure	\$179,494,243	5.0%	6.7%	6.7%
	Cash	\$99,543,631	2.0%	3.7%	4.2%
	DPFP Debt	-\$160,000,000		-6.0%	-6.0%
	Total	\$2,678,473,413	100.0%	100.0%	100.0%

### DPFP

### Cash Flows 3 Months Ending June 30, 2016

Month Ending	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Net Investment Change	Ending Market Value
Apr-16	\$2,654,405,358.84	-\$59,088,283.04	\$45,827,472.13	-\$13,260,810.91	\$5,186,842.39	\$2,646,331,390.32
May-16	\$2,647,710,119.03	-\$179,631,263.05	\$141,671,061.98	-\$37,960,201.07	\$5,647,324.76	\$2,615,397,242.72
Jun-16	\$2,615,397,242.72	-\$149,856,037.80	\$148,523,926.32	-\$1,332,111.48	\$64,408,282.08	\$2,678,473,413.32

### Dallas Police & Fire Pension

### Total Fund Performance Detail

Market Va	ue % of	3 Mo	Б	YTD ,		1 Yr ,	D 1	3 Yrs	D 1	5 Yrs ,		7 Yrs	D 1	10 Yrs		Return	0:
	(\$) Portfolio	(%)	Rank	(%)	Rank	(%)	Rank	(%)	Rank	(%)	Rank	(%)	Rank	(%)	Rank	(%)	Since
DPFP 2,678,473,	113 100.0	2.6	11	0.8	97	-6.5	99	-2.2	99	0.3	99	4.0	99	2.0	99	6.1	Jun-96
Allocation Index		2.9	7	5.9	1	6.3	1	9.2	1	7.6	7	9.1	39	5.6	40	7.2	Jun-96
InvestorForce Public DB Net Median		1.8		3.0		0.4		6.0		6.0		8.7		5.3		6.6	Jun-96
DPFP Ex Debt 2,838,473,	113 106.0	2.5	13	0.8	98	-6.2	99	-2.1	99	0.4	99	4.0	99	2.1	99	6.1	Jun-96
Allocation Index Ex Debt		2.6	11	5.5	1	5.9	1	9.0	1	7.5	8	9.0	41	5.5	42	7.2	Jun-96
DPFP Financial Composite 1,630,401,	192 60.9	4.2	1	4.5	7	-1.9	86	4.1	94	4.4	94	9.2	35	4.8	82	5.2	Oct-05
InvestorForce Public DB Net Median		1.8		3.0		0.4		6.0		6.0		8.7		5.3		5.5	Oct-05
Global Equity 421,523,	568 15.7	2.0	32	1.0	48	-4.2	54	6.8	53	6.2	56	10.6	53	4.6	54	4.6	Jul-06
MSCI ACWI Gross		1.2	47	1.6	44	-3.2	48	6.6	56	6.0	60	10.1	62	4.8	49	4.8	Jul-06
eA All Global Equity Net Median		1.0		0.7		-3.8		7.0		6.5		10.7		4.7		4.7	Jul-06
Private Equity 440,025,	144 16.4	7.1		2.6		2.8		-7.4		-1.3		1.4		1.7		2.6	Oct-05
Russell 3000 + 3%		3.4		5.2		5.2		14.4		14.9		18.4		10.6		10.6	Oct-05
Global Bonds 93,594,	220 3.5	1.1	78	8.4	22	5.3	32	2.2	65	2.3	60					3.0	Dec-10
Barclays Global Aggregate		2.9	35	9.0	16	8.9	8	2.8	56	1.8	72	3.4	80	4.4	74	2.4	Dec-10
HIgh Yield 167,874,	244 6.3	6.8	1	9.9	21	-3.9	99	1.2	85	4.1	80					5.4	Dec-10
Barclays Global High Yield		4.4	20	8.7	24	3.8	10	4.3	21	5.7	32	10.1	12	7.8	1	6.3	Dec-10
Bank Loans 52,843,	334 2.0	4.6	7	5.2	66	-0.5	84	-				-				2.1	Jan-14
S&P/LSTA Leveraged Loan Index		2.9	35	4.5	71	0.9	74	2.8	56	3.8	40	6.6	34	4.5	71	3.9	Jan-14
Emerging Markets Debt 57,567,	748 2.1	5.6	21	12.2	31	5.4	45	1.1	62	1.1	66					2.7	Dec-10
50% JPM EMBI/50% JPM GBI-EM		3.9	59	12.3	29	6.0	40	1.3	62	2.0	61					2.9	Dec-10
Private Debt 93,186,	707 3.5	-0.3		1.7												1.7	Jan-16
Barclays Global High Yield +2%		4.9		9.8												9.8	Jan-16
Total Asset Allocation 303,785,	<sup>7</sup> 27 11.3	3.3	30	5.4	33	-1.0	58	3.7	77	4.2	71	6.9	84			3.1	Jul-07
Global Asset Allocation Index		1.9	36	3.2	37	5.9	17	6.0	29	6.2	37	6.3	90			6.5	Jul-07
eA Global Balanced Net Median		1.3		2.7		0.5		5.3		5.0		7.7		5.0		3.7	Jul-07
Natural Resources 287,476,	331 10.7	0.8	-	0.9		1.9		5.7		5.9						4.1	Apr-15
Natural Resources Benchmark		6.8		16.5		20.1		15.8		11.7						18.3	Apr-15
Infrastructure 179,494,	243 6.7	-0.9		-3.2		-4.4		-0.3								1.1	Jul-12
Infrastructure Benchmark		5.0		14.1		16.9		9.6								8.9	Jul-12
Real Estate 641,557,	717 24.0	0.7		-6.6		-20.1		-14.3		-9.3		-7.0		-4.3		3.6	Mar-85
NCREIF Property Index		2.0		4.3		10.6		11.6		11.5		10.3		7.4		8.1	Mar-85
Cash Equivalents 99,543,	3.7	0.3		1.0		1.4		2.1								1.4	Apr-15
91 Day T-Bills		0.1		0.1		0.2		0.1		0.1		0.1		0.9		0.1	Apr-15

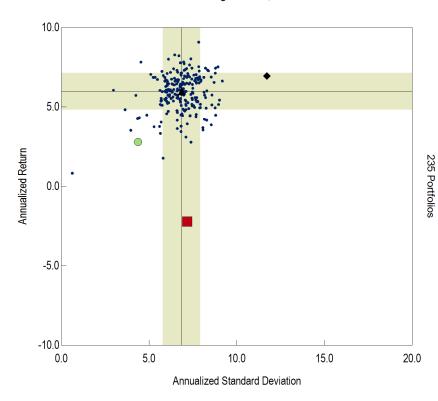
Returns shown on report are time weighted.

Financial Composite date is 10/1/2005 and excludes all funds that are lagged.



### Total Fund Risk/Return

### 3 Years Ending June 30, 2016



3 Years Ending June 30, 2016						
	Anlzd Ret	Rank	Anlzd Std Dev	Rank		
DPFP	-2.21%	99	7.16%	66		
Allocation Index	9.17%	1	5.31%	5		
Policy Index	8.38%	1	4.08%	2		
MSCI World	6.95%	17	11.70%	99		
Barclays Global Aggregate	2.80%	99	4.36%	3		
InvestorForce Public DB Net Median	5.98%		6.85%			

3 Years Ending June 30, 2016							
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank			
DPFP	-0.32	99	-0.29	99			
Allocation Index	1.71	1	3.53	1			
Policy Index	2.04	1	4.68	1			
MSCI World	0.59	93	1.11	88			
Barclays Global Aggregate	0.63	90	1.10	89			
InvestorForce Public DB Net Median	0.88		1.56				

Barclays Global Aggregate

MSCI World ▲ Universe Median

DPFP

■ 68% Confidence Interval

InvestorForce Public DB Net

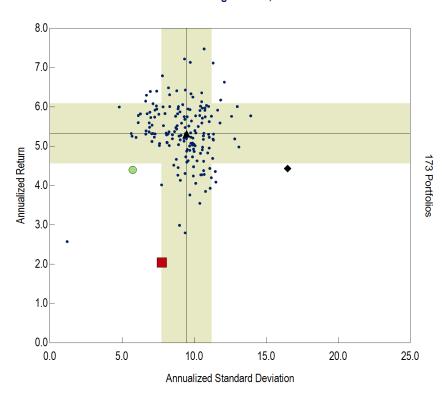
Returns are net of fees



June 30, 2016

### Total Fund Risk/Return

### 10 Years Ending June 30, 2016



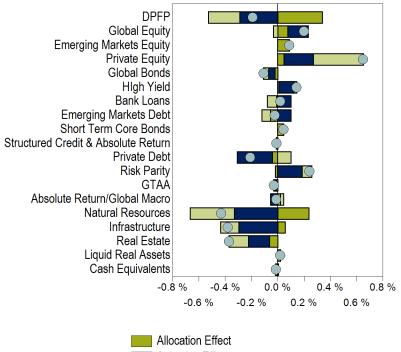
10 Years Ending June 30, 2016						
	Anlzd Ret	Rank	Anlzd Std Dev	Rank		
DPFP	2.04%	99	7.77%	21		
Allocation Index	5.56%	40	8.65%	31		
Policy Index	6.31%	8	9.06%	41		
MSCI World	4.43%	89	16.50%	99		
Barclays Aggregate	5.13%	67	3.23%	1		
InvestorForce Public DB Net Median	5.32%		9.48%			

10 Years Ending June 30, 2016						
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank		
DPFP	0.15	99	0.16	99		
Allocation Index	0.54	34	0.63	43		
Policy Index	0.60	24	0.66	36		
MSCI World	0.21	99	0.27	99		
Barclays Aggregate	1.31	1	2.25	1		
InvestorForce Public DB Net Median	0.47		0.58			

- DPFP
- MSCI World
- Barclays Global Aggregate
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

### Total Fund Attribution Analysis

### **Attribution Effects Relative to Allocation Index** 3 Months Ending June 30, 2016



Selection Effect Interaction Effects

Total Effect

### **Attribution Summary** 3 Months Ending June 30, 2016

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect		Total Effects
Global Equity	2.0%	1.2%	0.8%	0.2%	0.1%	0.0%	0.2%
<b>Emerging Markets Equity</b>					0.1%		
Private Equity	7.1%	3.4%	3.7%	0.2%	0.0%	0.4%	0.7%
Global Bonds	1.1%	2.9%	-1.7%	-0.1%	0.0%	0.0%	-0.1%
HIgh Yield	6.8%	4.4%	2.4%	0.1%	0.0%	0.0%	0.1%
Bank Loans	4.6%	2.9%	1.7%	0.1%	0.0%	-0.1%	0.0%
Emerging Markets Debt	5.6%	3.9%	1.7%	0.1%	-0.1%	-0.1%	0.0%
Short Term Core Bonds					0.0%		
Structured Credit & Absolute Return				-	0.0%		
Private Debt	-0.3%	4.9%	-5.3%	-0.3%	0.0%	0.1%	-0.2%
Risk Parity	5.5%	1.8%	3.7%	0.2%	0.0%	0.1%	0.2%
GTAA	1.3%	1.8%	-0.4%	0.0%	0.0%	0.0%	0.0%
Absolute Return/Global Macro	-2.5%	0.3%	-2.9%	-0.1%	0.0%	0.0%	0.0%
Natural Resources	0.8%	6.8%	-6.0%	-0.3%	0.2%	-0.3%	-0.4%
Infrastructure	-0.9%	5.0%	-5.9%	-0.3%	0.0%	-0.1%	-0.4%
Real Estate	0.7%	2.0%	-1.3%	-0.2%	-0.1%	-0.1%	-0.4%
Liquid Real Assets					0.0%		
Cash Equivalents	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%
Total	2.5%	2.7%	-0.2%	-0.3%	0.3%	-0.2%	-0.2%

### Policy Compliance Test: Traditional Managers

# 3 Year Rolling Excess Return Violations:

Manager	Return Rank	NEPC Recommendation
Global Equity		
Pyramis	53	N/A
OFI	76	HOLD
PRREEF Global REIT	50	HOLD
Mitchell Group	98	HOLD
Public Fixed Income		
Brandywine	68	HOLD
Mondrian	81	N/A
Loomis Sayles	72	HOLD
W.R. Huff High Yield	99	N/A
Ashmore AEMDF	51	HOLD
Ashmore AEMLCB	90	HOLD
GAA		
Putnam	80	HOLD
GMO	60	HOLD

# 3 Year Rolling Risk-Adjusted Excess Return Violations:

Manager	Sharpe Ratio Rank	NEPC Recommendation
Global Equity		
Pyramis	51	N/A
OFI	79	HOLD
PRREEF Global REIT	60	HOLD
Mitchell Group	97	HOLD
Public Fixed Income		
Brandywine	75	HOLD
Mondrian	74	N/A
Loomis Sayles	81	HOLD
W.R. Huff HY	99	N/A
Ashmore AEMDF	52	HOLD
Ashmore AEMLCB	87	HOLD
GAA		
Putnam	75	HOLD
GMO	65	HOLD
Bridgewater Pure Alpha	70	HOLD

### Qualitative Concerns:

	NEPC
Manager	Status
GMO	HOLD

Note: 'N/A' denotes that the Board has voted to terminate the manager in question.



### Manager Due Diligence Updates

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations						
Grantham, Mayo, Van Otterloo & Co. LLC GMO Global Allocation Absolute Return Composite	Other: GMO - Organizational Update 4/2016	Hold						
Grantham, Mayo, Van Otterloo & Co. LLC GMO Global Allocation Absolute Return Composite	Loss of Personnel: GMO Organization Changes 6/2016	Hold						

NEPC Due Diligence Status Key							
No Action	Informational items have surfaced; no action is recommended.						
Watch	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.						
Hold	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.						
Client Review	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.						
Terminate	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.						



### Manager Due Diligence Updates

Investment Option	Commentary	NEPC Rating
Grantham, Mayo, Van Otterloo & Co. LLC GMO Global Allocation Absolute Return Composite	Effective July 1, GMO announced that CEO Brad Hilsabeck will be stepping down. Brad, who had been CEO for the past 5 years, will remain as a member of GMO's Board of Directors. GMO emphasized that this was entirely Brad's decision and reasons were personal in nature. Peg McGetrick has been named acting CEO and she is currently a member of GMO's Board of Directors. Over the course of the next year, GMO will be conducting a search for CEO candidates as Peg McGetrick's role is intended to be temporary. At NEPC, we do not have any concerns regarding this announcement as no investment personnel are impacted. NEPC recommends No Action.	Preferred Closed
Grantham, Mayo, Van Otterloo & Co. LLC GMO Global Allocation Absolute Return Composite	On June 2nd, GMO announced a wide range of organization changes that directly impact the multi-asset strategies, global equity strategies, and fixed income strategies with the exception of emerging market debt. NEPC has assigned a due diligence rating of Hold for each of these strategies. We are recommending the Hold remain in place until a permanent CEO is named at GMO. In addition, should there be any additional senior departures from GMO, we will likely recommend a more serious due diligence status than Hold. To summarize, the following was announced on June 2nd: 1) GMO will be reducing approximately 10% of the firm's workforce, primarily non-investment team members 2) The global equity investment strategies will discontinue their use of an active fundamental stock selection component and will be exclusively quantitatively orientated 3) The developed fixed income strategies will simplify their investment process and will revert to the quantitative models previously used by the global bond team.	Preferred Closed

NEPC Due Diligence Rating Key								
Preferred	A high conviction investment product. Product has a clear and economically-grounded investment thesis, and is managed by an investment team that is sufficiently resourced and incented to execute on the thesis.							
Preferred Conditional	A strategy that meets the definition of Preferred as described above, but may only be suitable for certain clients due to unique characteristics of the strategy, e.g. higher risk attributes such as concentration, transparency, etc.							
Neutral	A satisfactory investment product. No major flaws, but may be lacking a compelling investment thesis, or NEPC's conviction regarding the investment team's ability to execute on the thesis may be less than that of Preferred products.							
Not Recommended	Serious issues have been identified with an investment manager or product. This rating is similar to the Client Review or Terminate rating for client-owned products.							
Not Rated	Due diligence has not been completed on the product or manager.							



### Dallas Police & Fire Pension

### Dallas Police & Fire Pension

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%) F	Rank	Return (%)	Since
DPFP	2,678,473,413	100.0	2.6	11	0.8	97	-6.5	99	-2.2	99	0.3	99	4.0	99	2.0	99	6.1	Jun-96
Allocation Index			2.9	7	5.9	1	6.3	1	9.2	1	7.6	7	9.1	39	5.6	40	7.2	Jun-96
Policy Index			2.7	11	5.2	2	6.7	1	8.4	1	7.7	6	10.0	12	6.3	8		Jun-96
InvestorForce Public DB Net Median			1.8		3.0		0.4		6.0		6.0		8.7		5.3		6.6	Jun-96
DPFP Debt	-160,000,000	-6.0	-0.7		-0.1												0.3	Oct-15
DPFP Ex Debt	2,838,473,413	106.0	2.5	13	0.8	98	-6.2	99	-2.1	99	0.4	99	4.0	99	2.1	99	6.1	Jun-96
Allocation Index Ex Debt			2.6	11	5.5	1	5.9	1	9.0	1	7.5	8	9.0	41	5.5	42	7.2	Jun-96
DPFP Financial Composite	1,630,401,492	60.9	4.2	1	4.5	7	-1.9	86	4.1	94	4.4	94	9.2	35	4.8	82	5.2	Oct-05
InvestorForce Public DB Net Median			1.8		3.0		0.4		6.0		6.0		8.7		5.3		5.5	Oct-05
Total Equity	861,549,012	32.2	4.7	-	2.1	-	-3.1		7.2	-	6.7	-					7.0	Dec-10
Total Equity Policy Index			1.5		3.0													Dec-10
Global Equity	421,523,568	15.7	2.0	32	1.0	48	-4.2	54	6.8	53	6.2	56	10.6	53	4.6	54	4.6	Jul-06
MSCI ACWI Gross			1.2	47	1.6	44	-3.2	48	6.6	56	6.0	60	10.1	62	4.8	49	4.8	Jul-06
Global Equity Custom Benchmark			2.1	31	2.3	41	-4.2	54	5.8	67	5.6	65	10.2	60	4.6	54	4.6	Jul-06
eA All Global Equity Net Median			1.0		0.7		-3.8		7.0		6.5		10.7		4.7		4.7	Jul-06
Eagle Asset	43,730,043	1.6	4.7	19	5.0	26	0.5	13	10.2	15	9.2	42	14.7	50	8.0	18	8.9	Feb-05
Russell 2000			3.8	34	2.2	51	-6.7	60	7.1	56	8.4	56	13.9	62	6.2	63	7.0	Feb-05
eA US Small Cap Equity Net Median			2.7		2.3		-5.6		7.4		8.8		14.7		6.8		7.6	Feb-05
Pyramis	95,414,527	3.6	1.0	50	-0.3	59	-5.6	64	6.9	53	6.0	59	9.7	65	4.4	61	7.7	Mar-02
MSCI ACWI Gross			1.2	47	1.6	44	-3.2	48	6.6	56	6.0	60	10.1	62	4.8	49	6.5	Mar-02
eA All Global Equity Net Median			1.0		0.7		-3.8		7.0		6.5		10.7		4.7		7.5	Mar-02
Walter Scott	86,717,912	3.2	2.4	26	4.6	30	3.7	21	7.5	42	7.7	34					8.1	Dec-09
MSCI ACWI Gross			1.2	47	1.6	44	-3.2	48	6.6	56	6.0	60	10.1	62	4.8	49	7.6	Dec-09
eA All Global Equity Net Median			1.0		0.7		-3.8		7.0		6.5		10.7		4.7		8.5	Dec-09
OFI	115,294,735	4.3	-2.0	89	-8.3	98	-13.7	94	4.9	76	5.3	68	10.5	55			3.0	Oct-07
MSCI ACWI Gross			1.2	47	1.6	44	-3.2	48	6.6	56	6.0	60	10.1	62	4.8	49	2.4	Oct-07
eA All Global Equity Net Median			1.0		0.7		-3.8		7.0		6.5		10.7		4.7		2.8	Oct-07
RREEF Global REIT	23,533,512	0.9	3.4	30	8.8	21	13.4	19	9.1	50	9.5	19	18.7	1	4.0	99	12.9	Feb-99
FTSE EPRA/NAREIT Global			3.5	30	8.9	21	11.6	40	8.3	76	8.2	72	13.8	65	4.8	91	9.8	Feb-99
eA Global REIT Net Median			2.6		7.3		10.3		9.1		9.1		14.3		5.0			Feb-99
Mitchell Group	29,169,046	1.1	14.6	2	21.5	2	-6.7	71	-4.0	98	-3.0	96	5.4	93	4.9	48	9.8	Oct-01
Dow Jones Equal Wtd. Oil & Gas			11.9	2	12.2	6	-24.6	99	-12.2	99	-9.1	98	-1.1	99	-5.4	99	4.0	Oct-01
eA All Global Equity Net Median			1.0		0.7		-3.8		7.0		6.5		10.7		4.7		8.0	Oct-01

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# DPFP

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Sustainable Asset Management	27,663,794	1.0	4.5	10	8.2	14	4.3	20	10.6	10	8.1	30	10.9	47			11.0	Nov-08
MSCI ACWI Gross			1.2	47	1.6	44	-3.2	48	6.6	56	6.0	60	10.1	62	4.8	49	10.0	Nov-08
eA All Global Equity Net Median			1.0		0.7		-3.8		7.0		6.5		10.7		4.7		10.5	Nov-08
Private Equity	440,025,444	16.4	7.1		2.6		2.8		-7.4		-1.3		1.4		1.7		2.6	Oct-05
Russell 3000 + 3%			3.4		5.2		5.2		14.4		14.9		18.4		10.6		10.6	Oct-05
Total Fixed Income	465,066,753	17.4	3.6	16	7.8	28	-0.4	84	2.5	60	4.5	33	9.5	8	5.8	36	5.8	Jul-06
Global Fixed Income Allocation Index			4.3	8	9.1	16	5.5	31	4.8	13	5.3	18	8.3	18	6.7	16	6.7	Jul-06
eA All Global Fixed Inc Net Median			2.2		6.3		3.4		3.1		2.9		5.5		5.0		5.0	Jul-06
Public Fixed Income	371,880,046	13.9	4.6		9.3	-	1.0		1.9		3.9						5.0	Dec-10
Global Bonds	93,594,220	3.5	1.1	78	8.4	22	5.3	32	2.2	65	2.3	60					3.0	Dec-10
Barclays Global Aggregate			2.9	35	9.0	16	8.9	8	2.8	56	1.8	72	3.4	80	4.4	74	2.4	Dec-10
eA All Global Fixed Inc Net Median			2.2		6.3		3.4		3.1		2.9		5.5		5.0		3.5	Dec-10
Brandywine	93,023,123	3.5	1.6	70	9.3	13	4.5	42	2.1	68	3.6	41	6.8	32	6.2	28	5.2	Oct-04
Barclays Global Aggregate			2.9	35	9.0	16	8.9	8	2.8	56	1.8	72	3.4	80	4.4	74	4.1	Oct-04
eA All Global Fixed Inc Net Median			2.2		6.3		3.4		3.1		2.9		5.5		5.0		5.1	Oct-04
Mondrian	571,097	0.0	-2.1	99	4.1	74	3.3	51	1.4	81	0.4	92	3.3	87	4.4	72	3.5	Oct-03
HIgh Yield	167,874,244	6.3	6.8	1	9.9	21	-3.9	99	1.2	85	4.1	80					5.4	Dec-10
Barclays Global High Yield			4.4	20	8.7	24	3.8	10	4.3	21	5.7	32	10.1	12	7.8	1	6.3	Dec-10
eA Global High Yield Fixed Inc Net Median			3.9		7.5		1.4		3.8		5.4		9.2		7.0		5.7	Dec-10
Loomis Sayles	121,384,460	4.5	7.3	1	9.9	21	-4.4	99	2.5	72	4.0	80	10.6	1	7.6	1	9.5	Oct-98
70% ML HIGH YIELD / 30% JPM EMBI PLUS			5.9	6	10.2	18	5.1	1	5.1	3	6.0	21	9.6	34	7.6	1	8.1	Oct-98
eA Global High Yield Fixed Inc Net Median			3.9		7.5		1.4		3.8		5.4		9.2		7.0		8.8	Oct-98
W.R. Huff High Yield	46,489,784	1.7	5.6	16	9.9	1	-2.6	94	-0.9	99	4.4	87	10.3	13	6.0	87	6.4	Jun-96
Citi High Yield Market Index			6.0	11	9.6	2	0.9	43	3.6	57	5.5	43	9.6	37	7.2	33	7.0	Jun-96
eA US High Yield Fixed Inc Net Median			4.3		6.9		0.8		3.9		5.4		9.1		6.8		6.7	Jun-96

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# DPFP

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Bank Loans	52,843,834	2.0	4.6	7	5.2	66	-0.5	84		-							2.1	Jan-14
S&P/LSTA Leveraged Loan Index			2.9	35	4.5	71	0.9	74	2.8	56	3.8	40	6.6	34	4.5	71	2.1	Jan-14
eA All Global Fixed Inc Net Median			2.2		6.3		3.4		3.1		2.9		5.5		5.0		2.3	Jan-14
Loomis Sayles Senior Rate and Fixed Income	52,843,834	2.0	4.6	7	5.2	66	-0.5	84									2.1	Jan-14
S&P/LSTA Leveraged Loan Index			2.9	35	4.5	71	0.9	74	2.8	56	3.8	40	6.6	34	4.5	71	2.1	Jan-14
eA All Global Fixed Inc Net Median			2.2		6.3		3.4		3.1		2.9		5.5		5.0		2.3	Jan-14
Emerging Markets Debt	57,567,748	2.1	5.6	21	12.2	31	5.4	45	1.1	62	1.1	66			-		2.7	Dec-10
50% JPM EMBI/50% JPM GBI-EM			3.9	59	12.3	29	6.0	40	1.3	62	2.0	61					2.9	Dec-10
eA All Emg Mkts Fixed Inc Net Median			4.3		11.0		5.1		3.6		3.6		7.5		7.6		4.2	Dec-10
Ashmore AEMDF	39,536,987	1.5	6.3	11	10.9	52	6.9	31	3.6	51	3.0	56	8.0	34	7.4	55	8.2	Feb-05
JP Morgan EMBI Global Diversified			5.0	32	10.3	63	9.8	8	7.2	2	6.5	5	8.8	23	8.0	32	7.8	Feb-05
eA All Emg Mkts Fixed Inc Net Median			4.3		11.0		5.1		3.6		3.6		7.5		7.6		7.8	Feb-05
Ashmore AEMLCB	18,030,760	0.7	3.7	66	15.5	3	1.7	78	-4.0	90	-2.9	90					-1.4	Mar-11
JP Morgan GBI EM Global Diversified TR USD			2.7	85	14.0	8	2.0	77	-3.6	83	-2.2	80	3.0	83	5.7	82	-0.8	Mar-11
eA All Emg Mkts Fixed Inc Net Median			4.3		11.0		5.1		3.6		3.6		7.5		7.6		4.2	Mar-11
Private Debt	93,186,707	3.5	-0.3	-	1.7												1.7	Jan-16
Barclays Global High Yield +2%			4.9		9.8												9.8	Jan-16
Highland Crusader Fund	5,090,089	0.2	0.1		16.6												16.6	Jan-16
Highland Capital Management, LP	12,431,871	0.5	0.0		0.0												0.0	Jan-16
Total Asset Allocation	303,785,727	11.3	3.3	30	5.4	33	-1.0	58	3.7	77	4.2	71	6.9	84	-		3.1	Jul-07
Total Asset Allocation Benchmark			1.5	46	3.5	36	6.1	16	6.1	27	6.4	34	6.7	89			6.7	Jul-07
eA Global Balanced Net Median			1.3		2.7		0.5		5.3		5.0		7.7		5.0		3.7	Jul-07
Risk Parity	166,460,894	6.2	5.5	18	9.8	1	1.1	47	4.7	70	5.7	43					6.6	Dec-10
60% MSCI ACWI/40% Barclays Global Aggregate			1.8	38	4.4	35	1.4	46	4.9	68	4.1	72	7.3	71	4.6	68	4.6	Dec-10
eA Global Balanced Net Median			1.3		2.7		0.5		5.3		5.0		7.7		5.0		5.4	Dec-10
Bridgewater All Weather	103,149,184	3.9	7.0	1	10.0	2	0.3	29	4.8	20	6.0	3	9.9	3			5.6	Sep-07
Bridgewater All Weather Benchmark			1.8	52	4.4	21	7.5	1	6.5	4	6.3	2	6.3	55			6.5	Sep-07
eA Global TAA Net Median			1.8		2.5		-1.2		3.5		3.4		6.6		5.0		3.7	Sep-07

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# DPFP

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Putnam	63,311,710	2.4	4.4	25	6.6	30	-0.4	55	3.4	80	3.5	83		-			5.7	Dec-09
Putnam Benchmark			1.8	38	4.4	35	7.0	14	6.4	22	6.6	31					6.8	Dec-09
eA Global Balanced Net Median			1.3		2.7		0.5		5.3		5.0		7.7		5.0		6.3	Dec-09
GTAA	106,889,473	4.0	1.3	60	2.1	57	-1.5	54	2.6	60	4.6	25					4.8	Dec-10
60% MSCI ACWI/40% Barclays Global Aggregate			1.8	52	4.4	21	1.4	22	4.9	19	4.1	29	7.3	41	4.6	64	4.6	Dec-10
eA Global TAA Net Median			1.8		2.5		-1.2		3.5		3.4		6.6		5.0		3.9	Dec-10
GMO	106,889,473	4.0	1.3	60	2.1	57	-1.5	54	2.6	60	4.6	25	6.0	56			4.0	Sep-07
GMO Benchmark			1.8	52	4.4	21	7.0	2	6.4	4	6.6	2	6.8	43			6.8	Sep-07
eA Global TAA Net Median			1.8		2.5		-1.2		3.5		3.4		6.6		5.0		3.7	Sep-07
Absolute Return/Global Macro	30,435,360	1.1	-2.5	99	-10.3	99	-11.5	98	5.0	19		-					4.1	Aug-11
HFRX Absolute Return Index			0.3	79	-0.2	86	0.6	24	1.7	78	1.1	96	0.4	99	-0.3	99	1.2	Aug-11
eA Global TAA Net Median			1.8		2.5		-1.2		3.5		3.4		6.6		5.0		3.6	Aug-11
Bridgewater Pure Alpha	30,435,360	1.1	-2.5	99	-10.3	99	-11.5	98	5.0	19							4.1	Aug-11
Bridgewater Pure Alpha Benchmark			0.3	79	-0.2	86	2.8	12	4.9	19							5.4	Aug-11
eA Global TAA Net Median			1.8		2.5		-1.2		3.5		3.4		6.6		5.0		3.6	Aug-11
Total Real Assets	1,108,528,290	41.4	0.4		-4.2		-13.1		-9.6		-6.3	-		-	-		-5.8	Dec-10
Total Real Assets Policy Index			3.7		8.7													Dec-10
Natural Resources	287,476,331	10.7	0.8		0.9		1.9					-					4.1	Apr-15
Natural Resources Benchmark			6.8		16.5		20.1		15.8		11.7						18.3	Apr-15
Infrastructure	179,494,243	6.7	-0.9		-3.2		-4.4		-0.3			-					1.1	Jul-12
Infrastructure Benchmark			5.0		14.1		16.9		9.6								8.9	Jul-12
Real Estate	641,557,717	24.0	0.7		-6.6		-20.1		-14.3		-9.3	-	-7.0	-	-4.3		3.6	Mar-85
NCREIF Property Index			2.0		4.3		10.6		11.6		11.5		10.3		7.4		8.1	Mar-85
Cash Equivalents	99,543,631	3.7	0.3		1.0		1.4					-					1.4	Apr-15
91 Day T-Bills			0.1		0.1		0.2		0.1		0.1		0.1		0.9		0.1	Apr-15

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#### **Footnotes**

- 1. Allianz Eco Trends was included in the Global Natural Resources composite from 11/1/2008 to 3/31/2015 and included in the Global Equity composite from 4/1/2015 to present.
- **2. Mitchell Group** was included in the Global Natural Resources composite from 10/1/2001 to 3/31/2015 and included in the Global Equity composite from 4/1/2015 to present.
- 3. Sustainable Asset Management was included in the Global Natural Resources composite from 11/1/2008 to 3/31/2015 and included in the Global Equity composite from 4/1/2015 to present.
- **4. Hudson Clean Energy** was included in the Global Natural Resources composite from 1/1/2010 to 3/31/2015 and included in the Private Markets composite from 4/1/2015 to 12/31/2015 and the Private Equity composite from 1/1/2016 to present.
- **5. RREEF** was included in the Real Estate composite from 2/1/1999 to 12/31/2009 and included in the Global Equity composite from 1/1/2010 to present.
- **6. Highland Crusader** was included in the Global Fixed Income composite from 7/1/2003 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- 7. **Highland Capital Management** was included in the Global Fixed Income composite from 1/1/2007 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- **8. Lone Star Fund VII, LP** was included in the Global Fixed Income composite from 10/1/2011 to 3/31/2015 and included in the Private Markets composite from 4/1/2015 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- **9. Lone Star Fund VIII, LP** was included in the Global Fixed Income composite from 10/1/2013 to 3/31/2015 and included in the Private Markets composite from 4/1/2015 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- **10. Lone Star Fund IX, LP** was included in the Global Fixed Income composite from 10/1/2014 to 3/31/2015 and included in the Private Markets composite from 4/1/2015 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- 11. Oaktree Fund IV & 2x Loan Fund was included in the Global Fixed Income composite from 1/1/2002 to 3/31/2015 and included in the Private Markets composite from 4/1/2015 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- **12. Ashmore Capital GSSF IV** was included in the Private Markets composite from 10/1/2007 to 12/31/2015 and included in the Private Credit composite from 1/1/2016 to present.
- 13. Global Infrastructure composite was included in the Private Markets composite history until 6/30/2012.
- **14. Private Equity composite** includes Private Credit managers until 12/31/2015. From 01/01/2016 to present the Private Equity and Credit managers are now in separate composites.
- **15. Policy index** changed on 4/1/2016 from 20% MSCI ACWI, 15% S&P 500+2%, 10% Global Natural Resources Benchmark, 15% Barclays Global Agg, 20% CPI+5%, 10% CPI +5%, 15% NCREIF PI to 20% MSCI ACWI (gross), 5% MSCI EM Equity (gross), 5% Russell 3000 +3%, 2% Barclays UST 1-3 Yr, 3% Barclays Global Agg, 5% Barclays Global HY, 6% S&P Leveraged Loan Index, 6% HFRI RV: FI (50/50- Abs/Corp), 6%50% JPM EMBI/50% JPM GBI-EM, 5% Barclays Global HY +2%, 5% S&P Global Nat Res, 5% S&P Global Infra, 12% NCREIF, 3% CPI +5%, 5% 60% MSCI ACWI/40% Barclays Global Agg, 3% 60% MSCI ACWI/40% Barclays Global Agg, 2% HFRX Abs Ret Index, 2% 90 Day T-Bill.
- **16. Natural Resources** benchmark changed from the Global Natural Resources benchmark from 12/1/2010 to 12/31/2015 to the S&P Global Natural Resources benchmark 1/1/2016 to present.
- 17. Infrastructure benchmark changed from CPI +5% from 7/1/2012 to 12/31/2015 to S&P Global Infrastructure benchmark 1/1/2016 to present.
- **18. Total Asset Allocation** benchmark changed from CPI+ 5% from 7/1/2007 to 12/31/2015 to 80% 60/40 MSCI ACWI & Barclays Global Agg and 20% HFRX Absolute Return Index 1/1/2016 to present.
- **19. Bridgewater All Weather** benchmark changed from 91 Day T Bills +6% from 9/1/2007 to 12/31/2015 to 60/40 MSCI ACWI & Barclays Global Agg 1/1/2016 to present.
- **20. GMO** benchmark changed from CPI +5% from 9/1/2007 to 12/31/2015 to 60/40 MSCI ACWI & Barclays Global Agg 1/1/2016 to present.
- 21. Putnam benchmark changed from CPI +5% from 12/1/2009 to 12/31/2016 to 60/40 MSCI ACWI & Barclays Global Agg 1/1/2016 to present.
- 22. Bridgewater Pure Alpha benchmark changed from 91 Day T Bills +6% from 8/1/2011 to 12/31/2015 to HFRX Absolute Return Index 1/1/2016 to present.



# **Portfolio Review: Global Equity**



# Global Equity

	Country A	Illocation		
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
Americas				
Brazil*	0.2%	0.7%	-5.4%	13.9%
Canada	1.4%	3.1%	4.2%	3.6%
Mexico*	0.0%	0.5%	-7.4%	-6.9%
United States	57.6%	52.6%	3.8%	2.6%
Total-Americas	59.2%	57.1%	3.8%	2.8%
Europe				
Austria	0.2%	0.1%	-13.0%	-9.6%
Belgium	0.1%	0.5%	2.8%	2.3%
Denmark	0.7%	0.7%	-2.7%	-0.5%
Finland	0.1%	0.3%	1.2%	-0.9%
France	4.9%	3.4%	-5.2%	-3.6%
Germany	3.7%	3.1%	-7.1%	-5.0%
Ireland	0.1%	0.2%	-10.7%	-9.8%
Italy	0.6%	0.7%	-16.5%	-10.1%
Luxembourg	0.0%	0.0%	12.6%	1.2%
Netherlands	0.7%	1.1%	8.2%	-3.8%
Norway	0.1%	0.2%	0.2%	2.9%
Portugal	0.0%	0.1%	-8.8%	-5.0%
Spain	1.6%	1.1%	-1.1%	-7.7%
Sweden	1.7%	1.0%	-6.8%	-4.6%
Switzerland	3.6%	3.1%	3.3%	2.4%
United Kingdom	4.8%	6.6%	-2.4%	-0.6%
Total-Europe	22.7%	22.7%	-3.2%	-2.3%

#### Country Allocation Versus MSCI ACWI Gross - Quarter Ending June 30, 2016

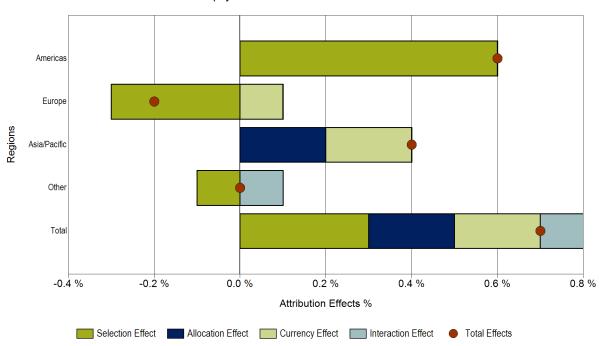
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
Australia	1.4%	2.4%	3.3%	0.5%
China*	0.3%	2.4%	-19.9%	1.2%
Hong Kong	2.0%	1.2%	6.8%	0.9%
India*	0.3%	0.8%	2.4%	3.7%
Japan	8.6%	7.6%	3.5%	1.0%
Korea*	0.1%	1.6%	7.5%	-1.1%
Philippines*	0.1%	0.1%	7.6%	6.4%
Singapore	0.2%	0.5%	2.4%	0.3%
Taiwan*	0.4%	1.3%	3.9%	1.1%
Total-AsiaPacific	13.5%	18.8%	3.4%	0.9%
Other				
Israel	0.1%	0.2%	-6.3%	-4.3%
Total-Other	0.1%	1.4%	-6.3%	-0.5%
Totals				
Developed	94.0%	89.8%	2.1%	1.2%
Emerging*	1.5%	10.2%	-2.5%	1.2%
Cash	4.5%		0.1%	

<sup>\*</sup>Emerging market countries



# Global Equity

Global Equity Performance Attribution vs. MSCI ACWI Gross



		Returns and	Weights			Attri	bution Effects		
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects
Totals									
Americas	3.8%	2.8%	59.2%	57.1%	0.6%	0.0%	0.0%	0.0%	0.6%
Europe	-3.2%	-2.3%	22.7%	22.7%	-0.3%	0.0%	0.1%	0.0%	-0.2%
Asia/Pacific	3.4%	0.9%	13.5%	18.8%	0.0%	0.2%	0.2%	0.0%	0.4%
Other	-6.3%	-0.5%	0.1%	1.4%	-0.1%	0.0%	0.0%	0.1%	0.0%
Cash	0.1%		4.5%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	2.0%	1.2%	100.0%	100.0%	0.3%	0.2%	0.2%	0.1%	0.7%
Totals									
Developed	2.1%	1.2%	94.0%	89.8%	0.6%	0.0%	0.2%	0.0%	0.8%
Emerging*	-2.5%	1.2%	1.5%	10.2%	-0.4%	0.0%	0.0%	0.3%	0.0%
Cash	0.1%	-	4.5%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%



### Manager Role in Portfolio

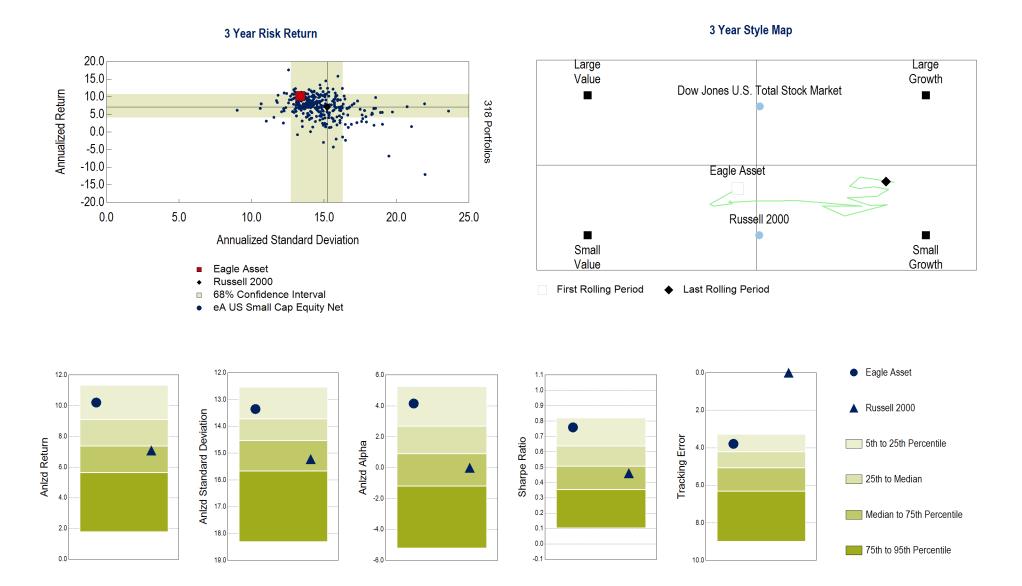
Eagle manages the domestic small cap portfolio

### Organizational Profile

- Eagle Asset Management was founded in 1976 and is a wholly owned subsidiary of Raymond James Financial, Inc. Eagle became a Registered Investment Advisor in 1984.
- Retail products form the core of their business

### Investment Strategy Commentary

- Fundamental, bottom-up approach
- Seeks companies with sustainable competitive advantages
- Favors companies that have strong management, conservative accounting, low-cost relative production costs, and high barriers to entry





#### Characteristics

	Portfolio	Russell 2000
Number of Holdings	119	2,006
Weighted Avg. Market Cap. (\$B)	2.6	1.7
Median Market Cap. (\$B)	2.0	0.7
Price To Earnings	23.1	20.7
Price To Book	3.5	2.7
Price To Sales	3.2	2.6
Return on Equity (%)	13.3	10.1
Yield (%)	1.5	1.3
Beta		1.0
R-Squared		1.0

### **Equity Sector Attribution**

			Attribution Effect	ts	R	leturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.3%	0.3%	0.0%	-0.1%	20.4%	7.5%	2.1%	2.6%
Materials	-0.3%	-0.3%	0.0%	0.0%	6.0%	12.9%	4.1%	3.9%
Industrials	0.1%	0.1%	0.0%	0.0%	3.6%	3.0%	13.4%	13.1%
Cons. Disc.	-0.2%	-0.2%	0.0%	0.0%	-2.9%	-1.7%	14.5%	14.1%
Cons. Staples	-0.3%	-0.3%	0.0%	-0.1%	1.4%	9.7%	4.4%	3.6%
Health Care	0.0%	0.0%	0.0%	0.0%	3.8%	4.1%	13.4%	13.7%
Financials	0.5%	0.5%	0.0%	0.0%	6.2%	4.3%	25.9%	26.3%
Info. Tech	-0.4%	-0.3%	0.0%	0.0%	0.4%	2.4%	18.2%	17.7%
Telecomm.	-0.1%		-0.1%			13.2%	0.0%	0.9%
Utilities	-0.1%	0.3%	-0.2%	-0.2%	16.3%	10.1%	0.9%	4.1%
Cash	-0.1%	0.0%	-0.1%	0.0%	0.1%		3.1%	0.0%
Portfolio	-0.7%	= 0.0%	+ -0.4%	+ -0.3%	3.1%	3.8%	100.0%	100.0%



#### **Top Positive Contributors**

#### **Top Negative Contributors**

	Relative			Relative	
	Contribution %	Return %		Contribution %	Return %
CYRUSONE	0.4%	22.8%	SPORTSMANS WHSE.HDG.	-0.3%	-36.0%
LOGMEIN	0.3%	25.7%	KORN FERRY INTERNATIONAL	-0.3%	-26.5%
STAG INDUSTRIAL	0.2%	18.8%	EMERGENT BIOSOLUTIONS	-0.2%	-22.6%
SAGENT PHARMACEUTICALS	0.2%	23.1%	VISTEON	-0.2%	-17.3%
QTS REALTY TRUST CL.A	0.2%	18.9%	SEAWORLD ENTERTAINMENT	-0.2%	-31.0%
NEW RESIDENTIAL INV.	0.2%	19.0%	STAMPS.COM	-0.2%	-17.7%
BROADRIDGE FINL.SLTN.	0.2%	10.4%	RADIAN GP.	-0.1%	-16.0%
PRESS GANEY HOLDINGS	0.1%	30.8%	CONVERGYS	-0.1%	-9.7%
EXPONENT	0.1%	14.9%	CACI INTERNATIONAL 'A'	-0.1%	-15.3%
BURLINGTON STORES	0.1%	18.6%	CSG SYS.INTL.	-0.1%	-10.3%

#### Manager Role in Portfolio

- Concentrated Energy sector portfolio within the Global Equity bucket
- Potential bear market and inflation hedge within the equity portfolio

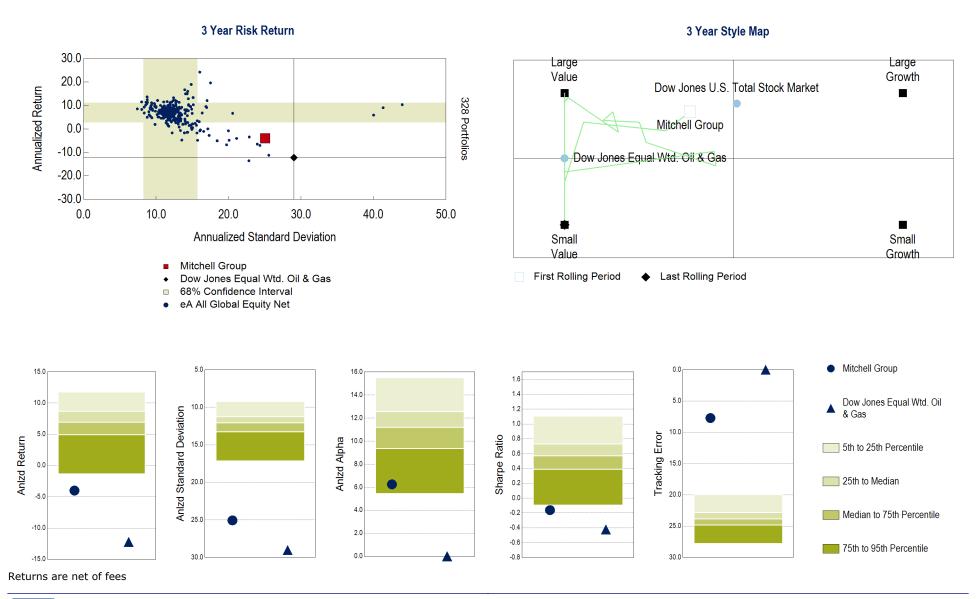
#### Organizational Profile

 Founded in 1989 and wholly-owned by its employees, this boutique investment firm is solely focused on publicly traded energy stocks

#### Investment Strategy Commentary

- Combination top-down, bottom-up investment approach
  - Top down focus: supply/demand forecasting, evaluate and anticipate political developments both domestically and overseas
  - Bottom-up focus: detailed analysis of assets, cash flow, and financial strength





#### Characteristics

	Portfolio	S&P 500 Energy
Number of Holdings	29	38
Weighted Avg. Market Cap. (\$B)	47.4	164.6
Median Market Cap. (\$B)	15.8	16.2
Price To Earnings	1.4	19.8
Price To Book	2.4	2.1
Price To Sales	2.9	2.1
Return on Equity (%)	0.1	5.7
Yield (%)	1.4	2.8
Beta		1.0
R-Squared		1.0

#### **Equity Sector Attribution**

	Total	Selection	Attribution Effect	ts Interaction	R	eturns	Secto	or Weights
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	4.5%	4.6%	0.0%	-0.1%	16.2%	11.6%	97.2%	100.0%
Materials	0.0%						0.0%	0.0%
Industrials	0.0%		-	-			0.0%	0.0%
Cons. Disc.	0.0%						0.0%	0.0%
Cons. Staples	0.0%		-	-			0.0%	0.0%
Health Care	0.0%						0.0%	0.0%
Financials	0.0%						0.0%	0.0%
Info. Tech	0.0%						0.0%	0.0%
Telecomm.	0.0%		-				0.0%	0.0%
Utilities	0.0%						0.0%	0.0%
Cash	-0.3%	0.0%	-0.3%	0.0%	0.1%		2.8%	0.0%
Portfolio	4.1%	= 4.6%	+ -0.3%	+ -0.1%	15.8%	11.6%	100.0%	100.0%



#### **Top Positive Contributors**

# **Top Negative Contributors**

Top Positive Co	ontributors	
	Relative Contribution %	Return %
MARATHON OIL	1.4%	35.3%
NEWFIELD EXPLORATION	1.3%	32.9%
RANGE RES.	1.0%	33.3%
DEVON ENERGY	1.0%	32.3%
CIMAREX EN.	1.0%	22.8%
SOUTHWESTERN ENERGY	1.0%	55.9%
ENERGEN	0.9%	31.8%
ROYAL DUTCH SHELL A ADR 1:2	0.8%	16.1%
CANADIAN NTRL.RES. (NYS)	0.6%	16.4%
EQT	0.6%	15.2%

### Manager Role in Portfolio

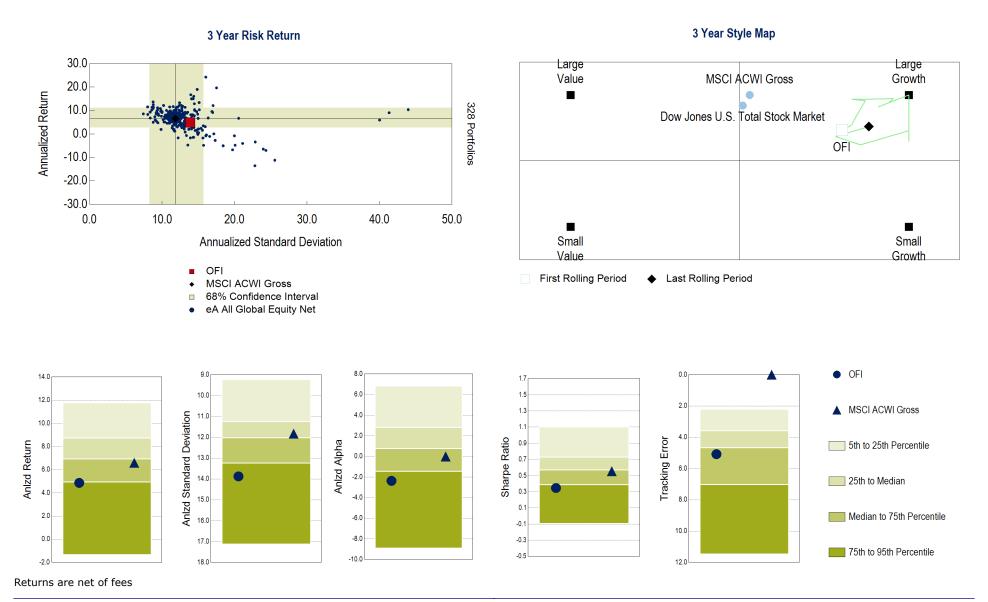
Represents global equity allocation

### Organizational Profile

 OFI is a wholly owned subsidiary of Oppenheimer Funds, Inc. with primary office locations in Boston, New York, Denver, and Bellefonte, PA.

### Investment Strategy Commentary

- Fundamental bottom-up stock picking, contrarian, and theme oriented (MANTRA) with a long term view of growth
- Themes are structural (i.e. new technologies, aging population, etc.) and of long-duration. Sub-themes and industries are constantly evolving.
- Position size based on level of conviction and performance potential, and the existing country and sector exposures.
- Largest positions reflect best ideas, and not index weight.





#### **Characteristics**

	Portfolio	MSCI World
Number of Holdings	93	1,645
Weighted Avg. Market Cap. (\$B)	62.8	92.9
Median Market Cap. (\$B)	25.0	10.3
Price To Earnings	22.9	21.6
Price To Book	3.9	3.2
Price To Sales	3.7	2.7
Return on Equity (%)	16.6	15.0
Yield (%)	2.1	2.6
Beta		1.0
R-Squared		1.0

### **Equity Sector Attribution**

			Attribution Effect	s	R	eturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	-0.5%	-0.2%	-0.5%	0.2%	7.0%	10.8%	1.5%	6.4%
Materials	-0.1%	-0.2%	-0.1%	0.1%	-0.9%	4.2%	0.9%	4.6%
Industrials	-0.2%	-0.2%	0.0%	0.0%	-1.0%	0.7%	13.2%	11.1%
Cons. Disc.	-0.7%	-0.4%	-0.1%	-0.2%	-8.5%	-4.0%	14.3%	13.2%
Cons. Staples	0.0%	0.4%	-0.2%	-0.3%	5.4%	3.8%	5.9%	11.1%
Health Care	-0.8%	-0.7%	0.2%	-0.3%	-0.2%	5.7%	16.4%	12.8%
Financials	-0.5%	-0.6%	0.0%	0.1%	-4.6%	-1.8%	18.2%	19.8%
Info. Tech	-0.5%	-0.2%	-0.5%	0.2%	-2.1%	-2.1%	26.4%	13.8%
Telecomm.	0.1%	0.0%	0.0%	0.2%	13.5%	3.1%	1.7%	3.7%
Utilities	-0.1%	0.5%	-0.1%	-0.4%	15.7%	4.8%	0.0%	3.5%
Cash	0.0%	0.0%	0.0%	0.0%	0.1%		1.6%	0.0%
Portfolio	-3.4%	= -1.6%	+ -1.4%	+ -0.4%	-2.1%	1.2%	100.0%	100.0%

#### **Top Positive Contributors**

### **Top Negative Contributors**

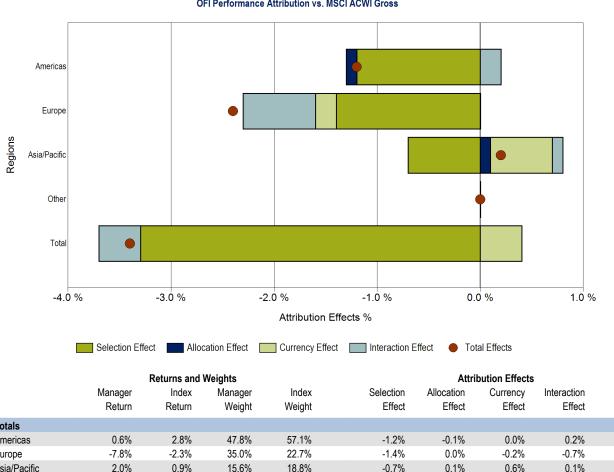
	Relative			Relative	
	Contribution %	Return %		Contribution %	Return %
KEYENCE	0.4%	23.5%	CIRCASSIA PHARMS.	-0.5%	-65.1%
ST.JUDE MEDICAL	0.3%	42.4%	ERICSSON 'B'	-0.3%	-20.8%
MCGRAW HILL FINANCIAL	0.2%	8.7%	BMW PREF.	-0.3%	-15.2%
AETNA	0.2%	9.0%	AIRBUS GROUP	-0.3%	-11.5%
KDDI	0.2%	13.5%	JD.COM 'A' ADR 1:2	-0.2%	-19.9%
INTUIT	0.2%	7.6%	LVMH	-0.2%	-10.6%
ZIMMER BIOMET HDG.	0.2%	13.1%	TIFFANY & CO	-0.2%	-16.7%
NIDEC	0.1%	9.9%	BAYER	-0.2%	-12.2%
MACROGENICS	0.1%	43.9%	MURATA MANUFACTURING	-0.2%	-8.1%
UNILEVER (UK)	0.1%	6.5%	CREDIT SUISSE GROUP N	-0.2%	-21.6%

# OFI

Country Allocation								
	Manager	Index	Manager	Index				
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)				
Americas								
Brazil*	0.8%	0.7%	-17.4%	13.9%				
United States	47.0%	52.6%	0.9%	2.6%				
Total-Americas	47.8%	57.1%	0.6%	2.8%				
Europe								
Denmark	0.4%	0.7%	-14.1%	-0.5%				
Finland	0.0%	0.3%	15.7%	-0.9%				
France	8.0%	3.4%	-9.1%	-3.6%				
Germany	10.0%	3.1%	-9.3%	-5.0%				
Italy	1.5%	0.7%	-11.8%	-10.1%				
Spain	3.5%	1.1%	-1.1%	-7.7%				
Sweden	3.5%	1.0%	-7.5%	-4.6%				
Switzerland	3.0%	3.1%	-1.9%	2.4%				
United Kingdom	5.3%	6.6%	-9.1%	-0.6%				
Total-Europe	35.0%	22.7%	-7.8%	-2.3%				

	Country Allo	ocation		
	Manager	Index	Manager	Index
	Allocation (USD) All	ocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
China*	1.2%	2.4%	-19.9%	1.2%
India*	1.3%	0.8%	2.4%	3.7%
Japan	13.2%	7.6%	3.9%	1.0%
Total-AsiaPacific	15.6%	18.8%	2.0%	0.9%
Totals				
Developed	95.2%	89.8%	-1.9%	1.2%
Emerging*	3.2%	10.2%	-10.6%	1.2%
Cash	1.6%		0.1%	

OFI Performance Attribution vs. MSCI ACWI Gross



				, <u></u>				
Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
0.6%	2.8%	47.8%	57.1%	-1.2%	-0.1%	0.0%	0.2%	-1.2%
-7.8%	-2.3%	35.0%	22.7%	-1.4%	0.0%	-0.2%	-0.7%	-2.4%
2.0%	0.9%	15.6%	18.8%	-0.7%	0.1%	0.6%	0.1%	0.2%
	-0.5%	0.0%	1.4%		0.0%	0.0%		0.0%
0.1%		1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
-2.1%	1.2%	100.0%	100.0%	-3.3%	0.0%	0.4%	-0.4%	-3.4%
-1.9%	1.2%	95.2%	89.8%	-3.2%	0.0%	0.4%	-0.2%	-3.0%
-10.6%	1.2%	3.2%	10.2%	-1.2%	0.0%	0.0%	0.8%	-0.4%
0.1%		1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	0.6% -7.8% 2.0% 0.1% -2.1% -1.9% -10.6%	Return Return  0.6% 2.8% -7.8% -2.3% 2.0% 0.9%0.5% 0.1%2.1% 1.2%  -1.9% 1.2%	Manager Return         Index Return         Manager Weight           0.6%         2.8%         47.8%           -7.8%         -2.3%         35.0%           2.0%         0.9%         15.6%            -0.5%         0.0%           0.1%          1.6%           -2.1%         1.2%         100.0%           -1.9%         1.2%         95.2%           -10.6%         1.2%         3.2%	Manager Return         Index Return         Manager Weight         Index Weight           0.6%         2.8%         47.8%         57.1%           -7.8%         -2.3%         35.0%         22.7%           2.0%         0.9%         15.6%         18.8%            -0.5%         0.0%         1.4%           0.1%          1.6%         0.0%           -2.1%         1.2%         100.0%         100.0%           -1.9%         1.2%         95.2%         89.8%           -10.6%         1.2%         3.2%         10.2%	Manager Return         Index Return         Manager Weight         Index Weight         Selection Effect           0.6%         2.8%         47.8%         57.1%         -1.2%           -7.8%         -2.3%         35.0%         22.7%         -1.4%           2.0%         0.9%         15.6%         18.8%         -0.7%            -0.5%         0.0%         1.4%            0.1%          1.6%         0.0%         0.0%           -2.1%         1.2%         100.0%         100.0%         -3.3%           -1.9%         1.2%         95.2%         89.8%         -3.2%           -10.6%         1.2%         3.2%         10.2%         -1.2%	Manager Return         Index Return         Manager Weight         Index Weight         Selection Effect         Allocation Effect           0.6%         2.8%         47.8%         57.1%         -1.2%         -0.1%           -7.8%         -2.3%         35.0%         22.7%         -1.4%         0.0%           2.0%         0.9%         15.6%         18.8%         -0.7%         0.1%            -0.5%         0.0%         1.4%          0.0%           0.1%          1.6%         0.0%         0.0%         0.0%           -2.1%         1.2%         100.0%         100.0%         -3.3%         0.0%           -1.9%         1.2%         95.2%         89.8%         -3.2%         0.0%           -10.6%         1.2%         3.2%         10.2%         -1.2%         0.0%	Manager Return         Index Return         Manager Weight         Index Weight         Selection Effect         Allocation Effect         Currency Effect           0.6%         2.8%         47.8%         57.1%         -1.2%         -0.1%         0.0%           -7.8%         -2.3%         35.0%         22.7%         -1.4%         0.0%         -0.2%           2.0%         0.9%         15.6%         18.8%         -0.7%         0.1%         0.6%            -0.5%         0.0%         1.4%          0.0%         0.0%           0.1%          1.6%         0.0%         0.0%         0.0%         0.0%           -2.1%         1.2%         100.0%         100.0%         -3.3%         0.0%         0.4%           -1.9%         1.2%         95.2%         89.8%         -3.2%         0.0%         0.0%           -10.6%         1.2%         3.2%         10.2%         -1.2%         0.0%         0.0%	Manager Return         Index Return         Manager Weight         Index Weight         Selection Effect         Allocation Effect         Currency Effect         Interaction Effect           0.6%         2.8%         47.8%         57.1%         -1.2%         -0.1%         0.0%         0.2%           -7.8%         -2.3%         35.0%         22.7%         -1.4%         0.0%         -0.2%         -0.7%           2.0%         0.9%         15.6%         18.8%         -0.7%         0.1%         0.6%         0.1%            -0.5%         0.0%         1.4%          0.0%         0.0%            0.1%          1.6%         0.0%         0.0%         0.0%         0.0%         0.0%           -2.1%         1.2%         100.0%         100.0%         -3.3%         0.0%         0.4%         -0.2%           -1.9%         1.2%         95.2%         89.8%         -3.2%         0.0%         0.4%         -0.2%           -10.6%         1.2%         3.2%         10.2%         -1.2%         0.0%         0.0%         0.8%

Manager Role in Portfolio

Represents the core international equity holding (Select Int'l Fund until 12/31/2009).
 Effective January 1, 2010, transitioned to a global core equity mandate (Select Global Fund).

Organizational Profile

Fidelity Management Trust Company (and now Pyramis) was established by Fidelity Investments (FMR Corp) in 1981 as a wholly-owned subsidiary to provide investment management services for institutional clients. Pyramis' organizational structure is closely linked with Fidelity Management & Research Company (FMRCo), the mutual fund division of Fidelity responsible for retail and institutional investment management. FMTC and FMRCo work side-by-side as one investment organization. Fidelity Investments is 100% employee-owned.

It should be noted that there were a lot of senior management changes in late 2005, however,

nothing that directly impacts this strategy.

 In May 2010, Fidelity announced that Ronald O'Hanley, former President & CEO of BNY Mellon Asset Management, would be joining the firm as President of its new Asset Management and Corporate Services division.

 In June 2011, Pyramis announced that Ravi Mantha, PM for the Select Emerging Markets portfolio since 2008, was leaving. John Chow, who currently manages US equities, will be

joining the Select team.

#### Investment Strategy Commentary

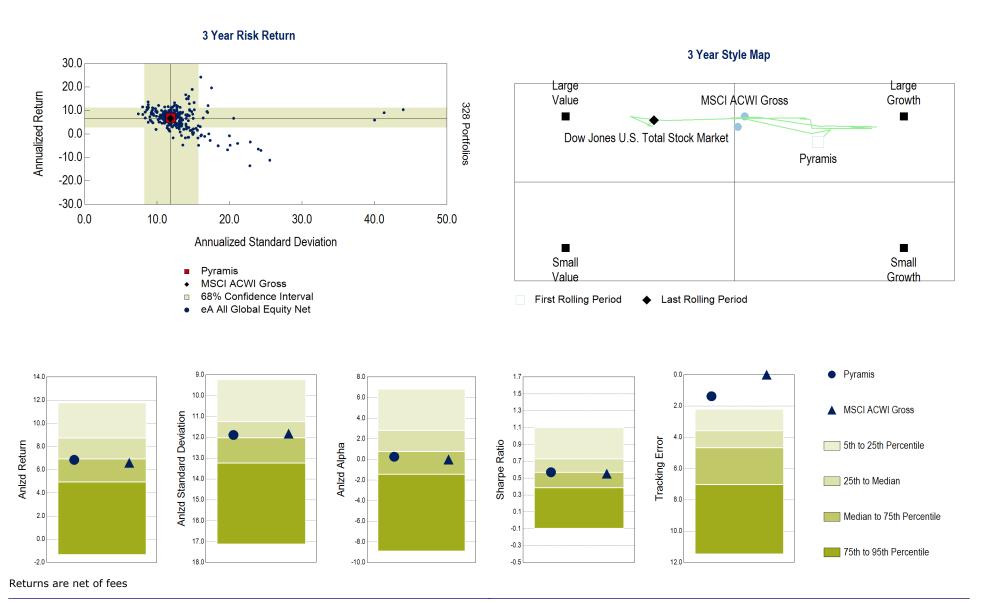
Select International Fund (until 12/31/2009)

 Core, bottom-up security selection combined with a quantitative, index-like country allocation strategy

 Objective of the product is to add value through security selection, while closely matching the country allocation of the MSCI EAFE Index

Select Global Fund as of January 1, 2010

- Global core, active, fundamental bottom-up security selection, with quantitative risk controls.
   Portfolio is constructed in a modular fashion, combining seven regional sub-portfolios (US, Canada, Japan, UK, Europe ex-UK, Japan Pacific ex-Japan, and emerging markets).
- The benchmark also changed to the MSCI ACWI from the MSCI EAFE as of Jan. 1, 2010.





#### Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	405	2,481
Weighted Avg. Market Cap. (\$B)	85.9	87.6
Median Market Cap. (\$B)	20.1	8.1
Price To Earnings	22.9	21.3
Price To Book	4.2	3.2
Price To Sales	3.5	2.7
Return on Equity (%)	17.1	15.5
Yield (%)	2.4	2.6
Beta		1.0
R-Squared		1.0

#### **Equity Sector Attribution**

			Attribution Effect	s	R	eturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.0%	0.2%	-0.1%	0.0%	11.5%	9.7%	5.2%	6.5%
Materials	-0.1%	-0.1%	0.0%	0.0%	1.9%	3.4%	4.7%	4.9%
Industrials	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.5%	9.4%	10.6%
Cons. Disc.	0.0%	-0.1%	0.1%	0.0%	-4.4%	-3.7%	11.6%	12.8%
Cons. Staples	0.0%	0.0%	0.0%	0.0%	3.6%	3.8%	10.0%	10.8%
Health Care	0.1%	0.1%	0.0%	0.0%	6.5%	5.6%	12.5%	11.7%
Financials	0.0%	-0.2%	0.1%	0.0%	-2.4%	-1.5%	16.4%	20.6%
Info. Tech	-0.1%	-0.2%	0.1%	0.1%	-2.6%	-1.3%	12.6%	14.5%
Telecomm.	0.1%	0.0%	0.0%	0.0%	3.6%	2.5%	4.4%	4.0%
Utilities	0.0%	0.1%	0.0%	0.0%	6.1%	4.4%	2.1%	3.5%
Cash	-0.2%	0.0%	-0.2%	0.0%	0.1%		11.1%	0.0%
Portfolio	-0.3%	= -0.3%	+ -0.1%	+ 0.1%	0.9%	1.2%	100.0%	100.0%

#### **Top Positive Contributors**

#### **Top Negative Contributors**

	Relative			Relative	
	Contribution %	Return %		Contribution %	Return %
ACTIVISION BLIZZARD	0.1%	17.1%	L BRANDS	-0.1%	-22.9%
MEDIVATION	0.1%	31.1%	ALLERGAN	-0.1%	-13.8%
BOSTON SCIENTIFIC	0.1%	24.2%	ITV	-0.1%	-26.4%
MONSTER BEVERAGE	0.1%	20.5%	TAYLOR WIMPEY	-0.1%	-31.8%
MEDTRONIC	0.1%	15.7%	LYONDELLBASELL INDS.CL.A	-0.1%	-12.1%
HALLIBURTON	0.1%	27.3%	GENERAL MOTORS	-0.1%	-8.8%
ADIDAS	0.1%	24.0%	INTESA SANPAOLO	0.0%	-27.4%
MARATHON OIL	0.0%	35.3%	CONTINENTAL	0.0%	-15.0%
CONSTELLATION BRANDS 'A'	0.0%	9.7%	FINMECCANICA	0.0%	-20.8%
ACE	0.0%	10.3%	LAS VEGAS SANDS	0.0%	-14.5%

# Pyramis

### **Regional Attribution**

	Total Portfolio (%)	Asia Pacific Ex Jp (%)	Emerging Markets (%)	Europe ex UK (%)	Japan (%)	North America (%)	UK (%)
Portfolio Return	1.0	(1.5)	2.9	(3.5)	1.7	2.3	(2.3)
Benchmark Return	1.0	0.4	0.7	(3.6)	1.0	2.5	(0.7)
Active Return	0.0	(1.9)	2.2	0.1	0.7	(0.2)	(1.6)
Value Added from Regional Allocation	0.0	0.0	0.0	0.0	(0.0)	0.0	(0.0)
Value Added from Stock Selection	(0.0)	(1.9)	2.2	0.1	0.7	(0.2)	(1.6)
Residual Country Allocation	0.0	(0.0)	0.7	(0.2)	0.0	(0.0)	0.0
Residual Sector Allocation	0.2	0.7	0.1	0.0	0.7	0.1	0.2
Residual Stock Specific	(0.2)	(2.5)	1.4	0.2	(0.0)	(0.3)	(1.8)
Cash and Other Assets	0.0						
Portfolio Turnover	NA						

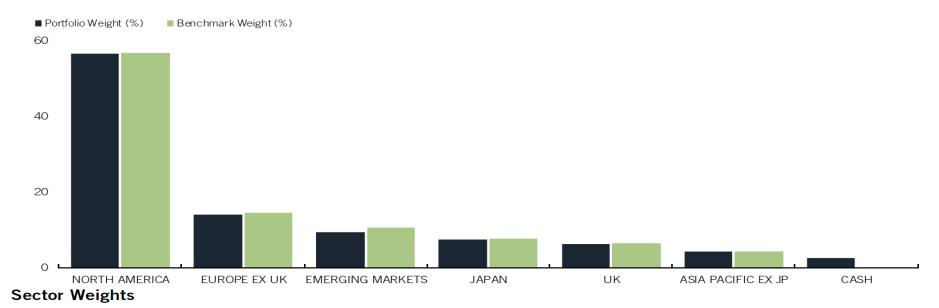
### Contribution to Relative Return by Sector & Region

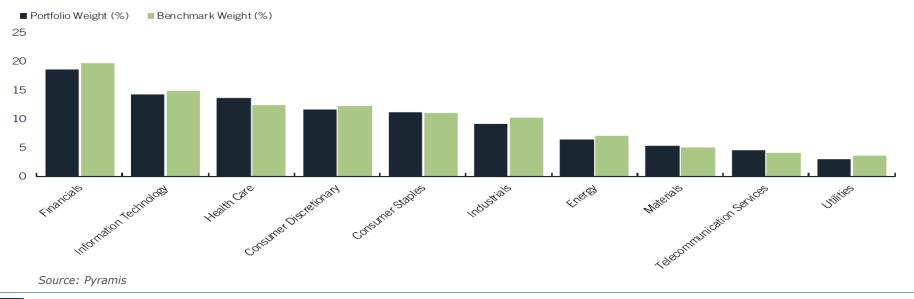
	Total Portfolio	Asia Pacific Ex	Emerging	Europe ex UK		North America	
	(%)	Jp (%)	Markets (%)	(%)	Japan (%)	(%)	UK (%)
CONSUMER DISCRETIONARY	(0.0)	(0.0)	0.1	0.1	0.0	(0.1)	(0.1)
CONSUMER STAPLES	0.1	0.0	0.1	0.0	(0.0)	0.0	0.0
ENERGY	0.1	(0.0)	0.0	0.0	(0.0)	0.1	(0.0)
FINANCIALS	0.0	0.0	0.1	0.0	0.0	(0.1)	(0.0)
HEALTH CARE	0.1	(0.0)	(0.0)	(0.0)	(0.0)	0.1	0.0
INDUSTRIALS	(0.1)	(0.0)	(0.0)	(0.0)	0.0	(0.1)	(0.0)
INFORMATION TECHNOLOGY	0.0	(0.0)	0.1	(0.0)	0.0	(0.0)	(0.0)
MATERIALS	(0.2)	0.0	(0.0)	(0.0)	(0.0)	(0.1)	0.0
TELECOMMUNICATION SERVICES	0.0	(0.0)	(0.0)	(0.0)	0.0	0.1	0.0
UTILITIES	0.0	(0.0)	0.0	(0.0)	0.0	0.0	(0.0)
All Sectors	0.0	(0.1)	0.2	0.0	0.0	(0.1)	(0.1)
Cash and Other Assets	0.0						
Active Return	0.0						

Source: Pyramis



#### **Regional Weights**







#### Manager Role in Portfolio

Concentrated eco/sustainability theme/sector portfolio within the Global Equity bucket

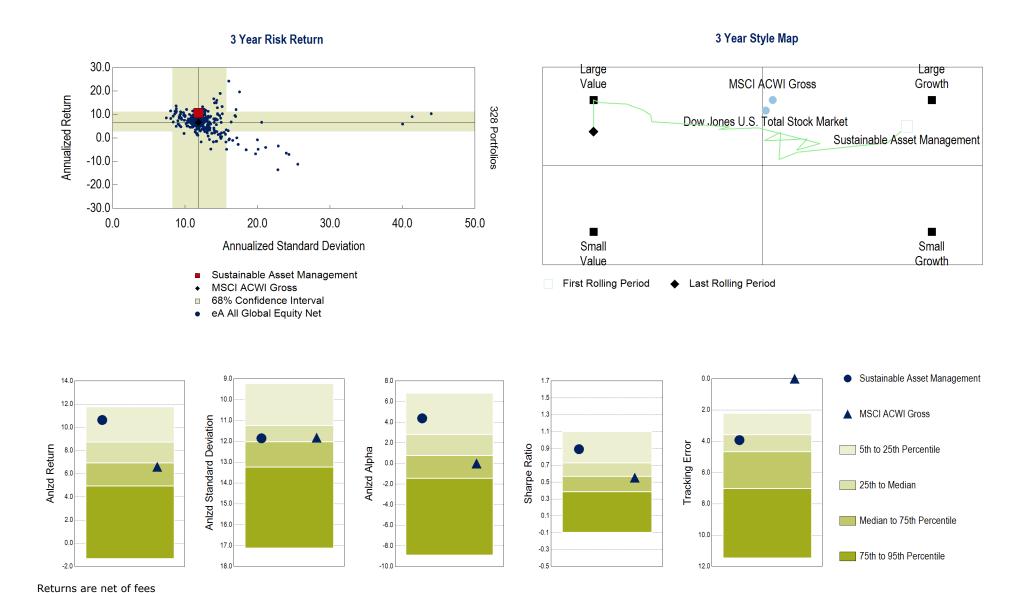
#### Organizational Profile

- SAM USA is an SEC registered Investment Adviser fully dedicated to global, regional and thematic sustainable investing.
- SAM USA's parent company, SAM was founded in 1995 as an independent asset management company specializing in sustainability investments.
- In February 2007, Robeco Group acquired a 64% stake in SAM, with the remaining 36% held by SAM's management and employees. Since the alliance with Robeco, an employment participation plan has been created, leading to a 38% ownership of SAM by employees and management.
- On January 1, 2011, Michael Baldinger, former head of Global Clients & Marketing, replaced Sander Van Eijken as CEO, who stepped down in February of 2010. Neil Johnson was named the new head of Global Clients & Marketing.
- SAM is headquartered in New York, NY and has offices in Zurich, Switzerland, Sonoma, CA, and Boston, MA.

#### Investment Strategy Commentary

- A disciplined, well-structured process that strives for an optimal risk/return profile, highlighting stock selection as the predominant return source.
- The portfolio construction is bottom-up driven. Stocks are weighted within the portfolio according to the results of the DCF valuation and their expected upside potential.
- Portfolios are monitored and rebalanced on a continuous basis.
- Even theme portfolios have strong biases in terms of sectors or risk factors (small caps), so asset selection remains an important risk and performance source.
- Risk management is executed with quantitative risk models on a monthly basis.





NEPC, LLC

June 30, 2016

#### **Characteristics**

	Portfolio	MSCI World
Number of Holdings	89	1,645
Weighted Avg. Market Cap. (\$B)	14.1	92.9
Median Market Cap. (\$B)	4.4	10.3
Price To Earnings	26.7	21.6
Price To Book	3.6	3.2
Price To Sales	2.4	2.7
Return on Equity (%)	14.9	15.0
Yield (%)	2.0	2.6
Beta		1.0
R-Squared		1.0

### **Equity Sector Attribution**

		Attribution Effects			R	Returns		Sector Weights	
	Total	Selection	Allocation	Interaction					
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.6%	-	-0.7%		-	10.8%	0.0%	6.4%	
Materials	-0.2%	-0.2%	0.0%	0.0%	0.4%	4.2%	4.9%	4.6%	
Industrials	2.0%	0.7%	-0.4%	1.7%	5.7%	0.7%	45.9%	11.1%	
Cons. Disc.	0.8%	0.5%	0.6%	-0.3%	3.3%	-4.0%	3.6%	13.2%	
Cons. Staples	-0.1%	1.2%	-0.3%	-1.0%	12.4%	3.8%	1.1%	11.1%	
Health Care	0.1%	0.1%	0.0%	0.1%	7.0%	5.7%	12.4%	12.8%	
Financials	0.8%	3.9%	0.5%	-3.7%	16.2%	-1.8%	0.6%	19.8%	
Info. Tech	0.6%	0.6%	0.3%	-0.4%	2.8%	-2.1%	5.1%	13.8%	
Telecomm.	-0.1%		-0.1%			3.1%	0.0%	3.7%	
Utilities	1.0%	0.1%	0.8%	0.1%	6.5%	4.8%	22.3%	3.5%	
Cash	-0.1%	0.0%	-0.1%	0.0%	0.1%		4.2%	0.0%	
Portfolio	4.2%	= 6.9%	+ 0.6%	+ -3.3%	5.5%	1.2%	100.0%	100.0%	

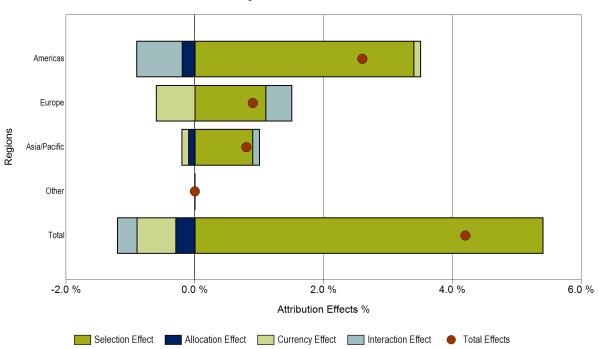
#### **Top Negative Contributors**

Top Positive				
	Relative Contribution %	Return %		
SMITH (AO)	0.6%	15.8%	SUEZ ENVIRONNEMENT	
AMERICAN WATER WORKS	0.5%	23.2%	VEOLIA ENVIRONNEMENT	
XYLEM	0.4%	9.6%	ANDRITZ	
CPAD.SANMT.DE MINASGR.ON	0.4%	79.5%	CARDNO	
WEIR GROUP	0.4%	23.9%	SEALED AIR	
EBARA	0.4%	30.8%	ELIS	
AGILENT TECHS.	0.3%	11.9%	ARCADIS	
GUANGDONG INVESTMENT	0.3%	22.7%	BERENDSEN	
DANAHER	0.3%	6.6%	SIIC ENVIRONMENT HDG.	
CAL.WATER SER.	0.2%	31.5%	GRUPO ROTOPLAS	

Country Allocation								
	Manager	Index	Manager	Index				
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)				
Americas								
Brazil*	0.5%	0.0%	79.5%	13.9%				
Canada	0.5%	3.5%	-5.1%	3.6%				
Mexico*	0.5%	0.0%	-7.4%	-7.0%				
United States	47.3%	58.7%	7.9%	2.6%				
Total-Americas	48.8%	62.1%	8.3%	2.7%				
Europe								
Austria	1.6%	0.1%	-11.7%	-9.6%				
Denmark	1.7%	0.8%	6.0%	-0.5%				
Finland	0.5%	0.4%	20.1%	-0.9%				
France	8.5%	3.8%	-8.7%	-3.6%				
Germany	1.1%	3.5%	12.3%	-5.0%				
Netherlands	0.4%	1.2%	-15.6%	-3.8%				
Sweden	0.3%	1.1%	-4.3%	-4.6%				
Switzerland	4.9%	3.4%	4.9%	2.4%				
United Kingdom	13.6%	7.3%	6.6%	-0.6%				
Total-Europe	32.7%	24.6%	1.4%	-2.3%				

	Country A	Allocation		
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
Australia	0.3%	2.7%	-34.8%	0.5%
Hong Kong	3.5%	1.2%	8.7%	1.0%
Japan	6.6%	8.5%	6.8%	1.0%
Korea*	1.8%	0.0%	7.5%	-1.2%
Philippines*	1.2%	0.0%	7.6%	5.8%
Singapore	1.0%	0.5%	7.2%	0.3%
Total-AsiaPacific	14.4%	13.0%	6.5%	0.9%
Totals				
Developed	91.9%	100.0%	5.3%	1.2%
Emerging*	3.9%	0.0%	14.9%	
Cach	1 20/		0.10/	

Sustainable Asset Management Performance Attribution vs. MSCI World



	Returns and Weights					Attribution Effects			
	Manager	ger Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects
Totals									
Americas	8.3%	2.7%	48.8%	62.1%	3.4%	-0.2%	0.1%	-0.7%	2.6%
Europe	1.4%	-2.3%	32.7%	24.6%	1.1%	0.0%	-0.6%	0.4%	0.9%
Asia/Pacific	6.5%	0.9%	14.4%	13.0%	0.9%	-0.1%	-0.1%	0.1%	0.8%
Other		-4.3%	0.0%	0.3%		0.0%	0.0%		0.0%
Cash	0.1%		4.2%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	5.5%	1.2%	100.0%	100.0%	5.4%	-0.3%	-0.6%	-0.3%	4.2%
Totals									
Developed	5.3%	1.2%	91.9%	100.0%	4.8%	0.0%	-0.6%	-0.4%	3.8%
Emerging*	14.9%		3.9%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%
Cash	0.1%		4.2%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%



#### Walter Scott

#### Manager Role in Portfolio

- Global Equity All Cap Growth (added in Q4 2009)

#### Organizational Profile

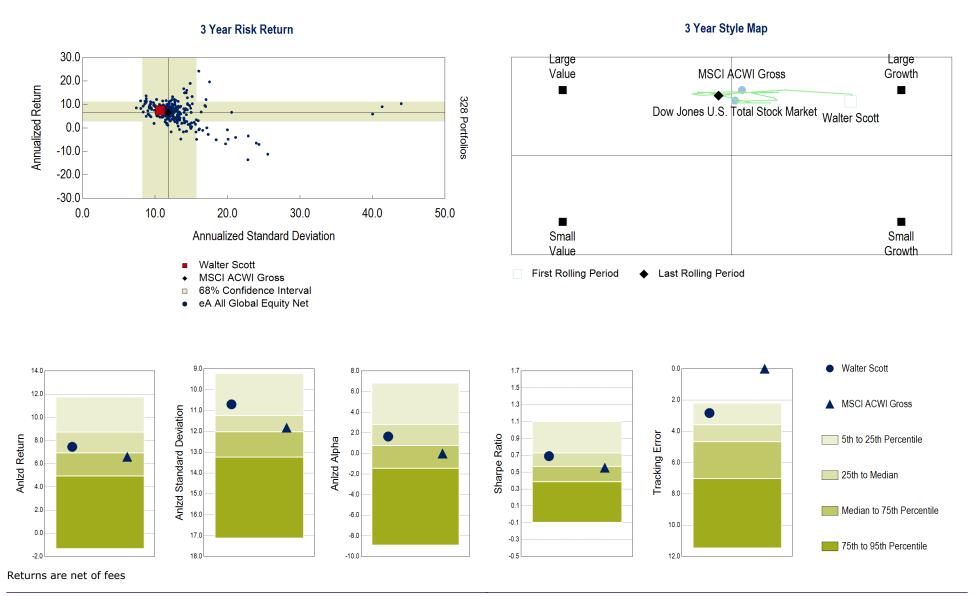
- Walter Scott was established in 1983 as an investment management firm specializing in equity investment across global mandates. In October, 2006, Walter Scott became a wholly owned subsidiary within The Mellon Financial Corporation (Mellon). Similar to Mellon's other investment management subsidiaries, Walter Scott operates autonomously in terms of business activities, investment research, portfolio management and investment administration. The investment decisions reflected within WS client portfolios reflect it independent investment research.
- In July of 2007, The Bank of New York Company, Inc. and Mellon Financial Corporation completed their merger with senior managers from both organizations heading business and support functions.

#### Investment Strategy Commentary

- Walter Scott's fundamental, bottoms-up approach combines detailed financial research with business and industry analysis. The primary focus is upon stock selection, finding companies capable of generating wealth internally at 20% per annum, and compounding at this rate into the future.
- Walter Scott will no own more than 5% of a company's market capitalization, although it may hold a
  greater proportion of its free float ,subject to their confidence level in the business' prospects. The final
  portfolio will be a low turnover growth portfolio that is concentrated in 40-60 names.



### Walter Scott





# Walter Scott

#### Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	57	2,481
Weighted Avg. Market Cap. (\$B)	90.5	87.6
Median Market Cap. (\$B)	45.9	8.1
Price To Earnings	25.5	21.3
Price To Book	5.9	3.2
Price To Sales	4.1	2.7
Return on Equity (%)	23.2	15.5
Yield (%)	2.0	2.6
Beta		1.0
R-Squared		1.0

### **Equity Sector Attribution**

		Attribution Effects			R	eturns	Secto	Sector Weights	
	Total	Selection	Allocation	Interaction					
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.1%	-0.2%	0.1%	0.0%	8.0%	9.7%	7.3%	6.5%	
Materials	0.0%	-0.2%	0.0%	0.2%	2.4%	3.4%	5.3%	4.9%	
Industrials	0.2%	-0.1%	0.0%	0.3%	3.2%	0.5%	6.7%	10.6%	
Cons. Disc.	-0.7%	-0.1%	-0.4%	-0.2%	-5.1%	-3.7%	20.9%	12.8%	
Cons. Staples	0.1%	0.5%	-0.1%	-0.3%	5.9%	3.8%	8.0%	10.8%	
Health Care	0.9%	0.4%	0.4%	0.1%	8.0%	5.6%	21.1%	11.7%	
Financials	0.6%		0.5%			-1.5%	0.0%	20.6%	
Info. Tech	0.2%	0.1%	-0.3%	0.3%	0.5%	-1.3%	24.2%	14.5%	
Telecomm.	0.0%	0.0%	0.0%	0.0%	3.9%	2.5%	1.8%	4.0%	
Utilities	0.2%	0.2%	0.0%	0.0%	10.7%	4.4%	3.1%	3.5%	
Cash	0.0%	0.0%	0.0%	0.0%	0.1%		1.6%	0.0%	
Portfolio	1.3%	= 0.6%	+ 0.2%	+ 0.6%	2.6%	1.2%	100.0%	100.0%	

#### **Top Positive Contributors**

### **Top Negative Contributors**

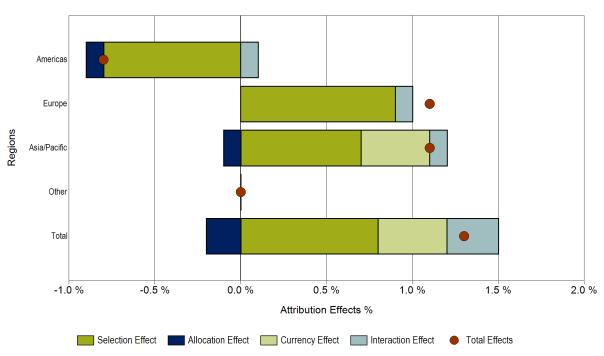
	Relative			Relative	
	Contribution %	Return %		Contribution %	Return %
KEYENCE	0.5%	23.5%	DENSO	-0.2%	-13.4%
C R BARD	0.4%	16.2%	NIKE 'B'	-0.2%	-9.9%
EOG RES.	0.3%	15.2%	LVMH	-0.2%	-10.6%
STRYKER	0.3%	12.1%	COGNIZANT TECH.SLTN.'A'	-0.2%	-8.7%
INTUITIVE SURGICAL	0.2%	10.0%	HENNES & MAURITZ 'B'	-0.2%	-9.7%
SHIN-ETSU CHEMICAL	0.2%	12.2%	MASTERCARD	-0.1%	-6.6%
NOVARTIS 'R'	0.2%	13.0%	GILEAD SCIENCES	-0.1%	-8.7%
JOHNSON & JOHNSON	0.2%	12.9%	HONDA MOTOR	-0.1%	-7.9%
CLP HOLDINGS	0.2%	13.5%	THE SWATCH GROUP 'B'	-0.1%	-14.4%
CSL	0.2%	7.0%	ALPHABET 'C'	-0.1%	-7.1%

# Walter Scott

	Country A	Allocation		
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
Americas				
Canada	1.7%	3.1%	-0.5%	3.6%
United States	49.0%	52.6%	1.4%	2.6%
Total-Americas	50.8%	57.1%	1.3%	2.8%
Europe				
Denmark	1.9%	0.7%	-1.6%	-0.5%
France	5.8%	3.4%	2.0%	-3.6%
Spain	2.2%	1.1%	-0.5%	-7.7%
Sweden	1.8%	1.0%	-9.7%	-4.6%
Switzerland	9.7%	3.1%	4.6%	2.4%
United Kingdom	3.9%	6.6%	6.7%	-0.6%
Total-Europe	25.4%	22.7%	2.4%	-2.3%

	Country A	Allocation		
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
Australia	2.4%	2.4%	7.0%	0.5%
Hong Kong	6.4%	1.2%	8.1%	0.9%
Japan	11.1%	7.6%	4.5%	1.0%
Taiwan*	2.3%	1.3%	3.9%	1.1%
Total-AsiaPacific	22.3%	18.8%	5.7%	0.9%
Totals				
Developed	96.1%	89.8%	2.6%	1.2%
Emerging*	2.3%	10.2%	3.9%	1.2%
Cash	1.6%		0.1%	

Walter Scott Performance Attribution vs. MSCI ACWI Gross



		Returns and	Weights			Attri	bution Effects		
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Totals									
Americas	1.3%	2.8%	50.8%	57.1%	-0.8%	-0.1%	0.0%	0.1%	-0.8%
Europe	2.4%	-2.3%	25.4%	22.7%	0.9%	0.0%	0.0%	0.1%	1.1%
Asia/Pacific	5.7%	0.9%	22.3%	18.8%	0.7%	-0.1%	0.4%	0.1%	1.1%
Other		-0.5%	0.0%	1.4%		0.0%	0.0%		0.0%
Cash	0.1%		1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	2.6%	1.2%	100.0%	100.0%	0.8%	-0.2%	0.4%	0.3%	1.3%
Totals									
Developed	2.6%	1.2%	96.1%	89.8%	0.8%	0.0%	0.4%	0.1%	1.3%
Emerging*	3.9%	1.2%	2.3%	10.2%	0.3%	0.0%	0.0%	-0.2%	0.1%
Cash	0.1%		1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%





## Glossary of Investment Terminology – Risk Statistics

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

**Alpha Jensen** - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

**Annualized Excess Return over Benchmark** - Annualized fund return minus the annualized benchmark return for the calculated return.

**Annualized Return** - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

**Beta** - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

#### Formula:

(Annualized Return of Portfolio - Annualized Return of Benchmark)/Annualized Standard Deviation(Period Portfolio Return - Period Benchmark Return). To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared – Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

**Sharpe Ratio** - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

**Sortino Ratio** - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

#### Formula:

Calculation Average (X-Y)/Downside Deviation (X-Y) \* 2 Where X=Return Series X Y = Return Series Y which is the risk free return (91 day T-bills) **Standard Deviation** - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

#### Formula:

(Annualized Return of Portfolio – Annualized Return of Risk Free) / Annualized Standard Deviation (Portfolio Returns)

**Tracking Error** - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

#### Formula:

Tracking Error = Standard Deviation  $(X-Y) * \sqrt{(\# of periods per year)}$ Where X = periods portfolio return and <math>Y = the period's benchmark returnFor monthly returns, the periods per year = 12 For quarterly returns, the periods per year = 4

**Treynor Ratio** - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

#### Formula:

(Portfolio Average Return - Average Return of Risk-Free Rate)/Portfolio Beta

**Up/Down Capture Ratio** - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

UpsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Period Benchmark Return is > = 0

DownsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Benchmark <0

Source: Investor Force



### Glossary of Investment Terminology

# Of Portfolios/Observations1 – The total number of data points that make up a specified universe

Allocation Index<sup>3</sup> - The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

Asset Allocation Effect<sup>2</sup> - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

Agency Bonds (Agencies)<sup>3</sup> - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

Asset Backed Securities (ABS)<sup>3</sup> - Bonds which are similar to mortgagebacked securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

**Attribution**<sup>3</sup> - Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions.

Average Effective Maturity<sup>4</sup> - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

**Batting Average<sup>1</sup>** - A measurement representing an investment manager's ability to meet or beat an index.

Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.

Brinson Fachler (BF) Attribution<sup>1</sup> - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

**Brinson Hood Beebower (BHB) Attribution¹** - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

Corporate Bond (Corp) <sup>4</sup> - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

Correlation<sup>1</sup> - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



## Glossary of Investment Terminology

Coupon<sup>4</sup> – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."

Currency Effect¹ - Is the effect that changes in currency exchange rates over time affect excess performance.

**Derivative Instrument**<sup>3</sup> - A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

**Downside Deviation<sup>1</sup>** - Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.

#### Formula:

Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.

**Duration**<sup>3</sup> - Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.

Equity/Debt/Cash Ratio<sup>1</sup> – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

Foreign Bond<sup>3</sup> - A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

Hard Hurdle<sup>5</sup> – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate.

**High-Water Mark**<sup>4</sup> - The highest peak in value that an investment fund/ account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

**Hurdle Rate<sup>4</sup>** - The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

Interaction Effects<sup>2</sup> - The interaction effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

**Median<sup>3</sup>** - The value (rate of return, market sensitivity, etc.) that exceeds one-half of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

Modified Duration<sup>3</sup> - The percentage change in the price of a fixed income security that results from a change in yield.

Mortgage Backed Securities (MBS)<sup>3</sup> - Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

Municipal Bond (Muni) <sup>4</sup> - A debt security issued by a state, municipality or county to finance its capital expenditures.

**Net Investment Change<sup>1</sup>** – Is the change in an investment after accounting for all Net Cash Flows.

Performance Fee<sup>4</sup> - A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



### Glossary of Investment Terminology

**Policy Index**<sup>3</sup> - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

**Price to Book (P/B)**<sup>4</sup> - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

**Price to Earnings (P/E)**<sup>3</sup> - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

**Price to Sales (P/S)**<sup>4</sup> - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

Return on Equity (ROE)<sup>4</sup> - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

**Selection (or Manager) Effect**<sup>2</sup> - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

Soft Hurdle rate<sup>5</sup> – is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

**Tiered Fee<sup>1</sup>** – A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

**Total Effects<sup>2</sup>** - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

**Total Return¹** - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

Universe3 - The list of all assets eligible for inclusion in a portfolio.

Upside Deviation - Standard Deviation of Positive Returns

Weighted Avg. Market Cap.<sup>4</sup> - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

Yield (%)<sup>3</sup> - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity<sup>3</sup> -The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



### Information Disclosure

- Past performance is no guarantee of future results.
- NEPC uses, as its data source, the plan's custodian bank or fund service company, and NEPC relies on those sources for security pricing, calculation of accruals, and all transactions, including income payments, splits, and distributions. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- The Investment Performance Analysis (IPA) is provided as a management aid for the client's internal use only. Portfolio performance reported in the IPA does not constitute a recommendation by NEPC.
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# First Quarter 2016 **Private Markets Performance Review**

(Abbreviated Report)

September, 2016

Rhett Humphreys, CFA Partner

Keith Stronkowsky, CFA Senior Consultant

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- NEPC, LLC uses, as its data source, the plan's fund manager and custodian bank or fund service company, and NEPC, LLC relies on those sources for all transactions, including capital calls, distributions, income/expense and reported values. While NEPC, LLC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
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September, 2016

Trustees & Staff
Dallas Police & Fire Pension System
4100 Harry Hines Blvd – Suite 100
Dallas, TX 75219

**RE:** Private Markets Strategy – 1<sup>st</sup> Quarter 2016

#### Dear Trustees:

We are pleased to present the March 31, 2016 Private Markets Report for Dallas Police & Fire Pension System, (DPFP). The report provides a variety of performance analysis for the private markets portfolio. The reports include trailing performance, performance by investment stage and vintage year performance.

The DPFP experienced a positive quarter with a nominal IRR of 2.56%. The annualized IRR of the private markets portfolio since inception was 1.17% at quarter end. Since inception, the Total Value to Paid In multiple (current valuation plus cumulative distributions, divided by total capital calls) was 1.05.

The following table presents the status of the DPFP private markets portfolio as of March 31, 2016:

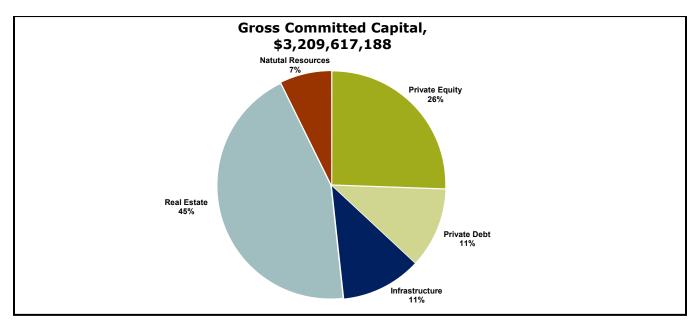
Since	Terminated	Amount	Amount	Reported	Call	Distribution	
Inception	Commitments	Funded	Distributed	Value	Ratio	Ratio	
Commitments							
\$3,209,617,188	\$8,938,188	\$2,858,686,603	\$1,401,910,693	\$1,622,143,200	89.07%	49.04%	

	Market Exposure	Total Fund	Deiveta Maukata Taurat	Reported	Market
Unfunded	(Reported Value +	Composite	Private Markets Target	Value	Exposure
Commitment	<b>Unfunded Commitment)</b>	as of		of Total	as a %
		3/31/2016		Fund	Total Fund
\$359,868,773	\$1,982,011,973	\$2,654,819,526	Varies By Category	61.10%	74.66%

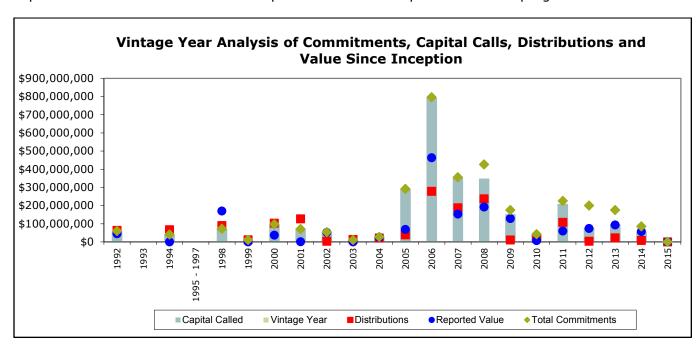
Total Value	Total Value	Internal Rate of Return
(Reported Value + Distributions)	То	IRR, Since Inception
	Capital Call Ratio	(October 13, 1994)
\$3,024,053,893	1.05	1.17%



As of March 31, 2016, the DPFP has made commitments totaling \$3,209.62 million to 84 private markets assets.



The following chart provides an analysis of the vintage year performance comparing the capital calls to the distributions and reported value for the private markets program:

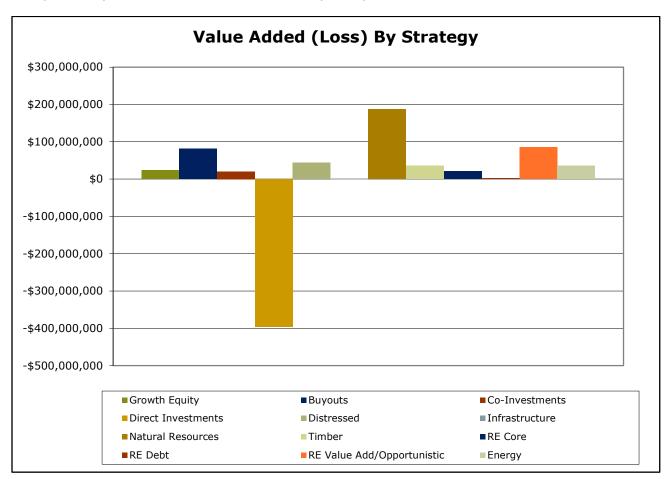




During the quarter-ended March 31, 2016, the DPFP private markets portfolio funded 29 investments and received 23 distributions from its funds. The summary of the cash flows follows:

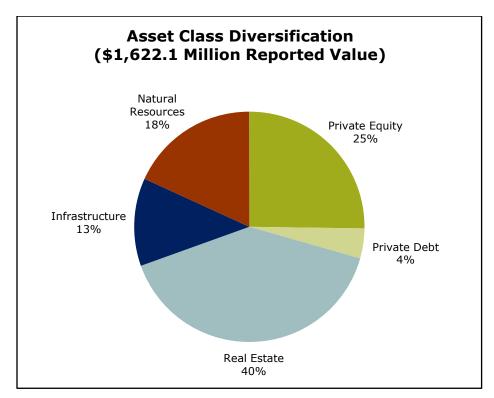
<b>Amount Funded</b>	Number of Funds	Distributions	<b>Number of Funds</b>	Net Cash/Stock
for the Quarter	<b>Calling Capital</b>	for the	Making	Flows for the
		Quarter	Distributions	Quarter
\$27,902,451	29	\$28,815,247	23	\$912,796

Since inception the DPFP private markets portfolio added \$139.29 million in value to the DPFP. Investment strategies adding value include growth equity \$24.25 million, buyouts \$81.50 million, distressed \$43.26 million, Energy \$35.84 million, Natural Resources \$187.53 million, Timber \$35.47 million, RE Core \$20.54 million, RE Debt \$2.35 million, RE Value Add/Opportunistic \$85.24 million, and co-investments \$20.27 million. Direct Investments lost (\$396.27) million and Infrastructure lost (\$0.69) million.





As of March 31, 2016, the private markets funds in the DPFP portfolio had the following investment strategy diversification based on the investment fund's reported value:



We thank you for the opportunity to work with the DPFP and look forward to continued success in the future.

# Dallas Police & Fire Pension System Performance Analysis - Total Private Markets Program

3/31/2016

Investment Name	Commitment Amount	,	Paid in Capital	(	Capital to be Funded	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR (SI)
Private Equity / Debt	\$ 1,185,346,248	\$	952,401,304	\$	241,883,133	\$ 704,747,526	\$ 477,227,488	\$ 1,181,975,013	\$ 203,581,255	80%	0.72	1.21	5.00%
Real Assets	\$ 2,024,270,940	\$	1,906,285,300	\$	117,985,641	\$ 697,163,167	\$ 1,144,915,713	\$ 1,842,078,880	\$ (64,289,764)	94%	0.37	0.97	-0.82%
Total	\$ 3,209,617,188	\$	2,858,686,604	\$	359,868,774	\$ 1,401,910,693	\$ 1,622,143,201	\$ 3,024,053,893	\$ 139,291,491	89%	0.49	1.05	1.17%

#### **Performance Analysis - Private Markets Subsectors**

Investment Name	Commitment Amount	Paid in Capital	(	Capital to be Funded	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR (SI) <sup>2</sup>
Private Equity	\$ 820,346,248	\$ 624,350,139	\$	204,934,298	\$ 390,482,551	\$ 409,153,153	\$ 799,635,704	\$ 160,318,597	76%	0.61	1.25	5.18%
Private Debt <sup>1</sup>	\$ 365,000,000	\$ 328,051,165	\$	36,948,835	\$ 314,264,975	\$ 68,074,335	\$ 382,339,310	\$ 43,262,658	90%	0.93	1.13	4.44%
Natural Resources	\$ 233,797,292	\$ 233,797,292	\$	-	\$ 161,825,126	\$ 294,969,814	\$ 456,794,940	\$ 222,997,648	100%	0.69	1.95	10.44%
Real Estate	\$ 1,426,473,648	\$ 1,393,353,837	\$	33,119,811	\$ 456,408,240	\$ 650,345,810	\$ 1,106,754,050	\$ (286,599,787)	98%	0.33	0.79	-5.31%
Infrastructure	\$ 364,000,000	\$ 279,134,170	\$	84,865,830	\$ 78,929,801	\$ 199,600,089	\$ 278,529,890	\$ (687,625)	77%	0.28	1.00	-0.09%
Total	\$ 3,209,617,188	\$ 2,858,686,604	\$	359,868,774	\$ 1,401,910,693	\$ 1,622,143,201	\$ 3,024,053,893	\$ 139,291,491	89%	0.49	1.05	1.17%

#### Notes:

- 1. Exposure does not include Highland Capital (hedge fund) positions totaling \$17.5M in NAV. Overall plan exposure to private debt (including Highland Capital) is noted in the IPA report.
- 2. IRR's are since inception as of the following dates: Private Equity (10.13.94), Private Debt (12.20.01), Real Estate (3.31.99), Natural Resources (3.12.99), Infrastructure (10.3.07)





First Quarter 2016 **Private Equity & Private Debt** 

## Private Equity and Private Debt Summary by Asset Class

The following table presents the status of the DPFP  $\begin{subarray}{c} \begin{subarray}{c} \begin{subar$ 

	Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
ſ	\$820,346,248	\$0	\$624,350,139	\$390,482,551	\$409,153,153	76.11%	62.54%

Unfunded	Market Exposure (Reported Value +	Total Fund Composite	Private Equity Target	Reported Value	Market Exposure
Commitment	Unfunded Commitment)	as of		of Total	as a %
		3/31/2016		Fund	Total Fund
\$204,934,298	\$614,087,451	\$2,654,819,526	5%	15.41%	23.13%

Total Value	Total Value	Internal Rate of Return
(Reported Value + Distributions)	То	IRR, Since Inception
	Capital Call Ratio	
\$799,635,704	1.25	5.18%

The following table presents the status of the DPFP  $\underline{\textbf{PRIVATE DEBT}}$  portfolio as of March 31, 2016:

Since	Terminated	Amount	Amount	Reported	Call	Distribution	
Inception	Commitments	Funded	Distributed	Value	Value Ratio		
Commitments							
\$365,000,000	\$0	\$328,051,165	\$314,264,975	\$68,074,335	89.88%	95.80%	

ſ		Market Exposure	Total Fund	Private Debt Target	Reported	Market
	Unfunded	(Reported Value +	Composite	Private Debt Target	Value	Exposure
	Commitment	<b>Unfunded Commitment)</b>	as of		of Total	as a %
			3/31/2016		Fund	Total Fund
I	\$36,948,835	\$105,023,170	\$2,654,819,526	5%	2.56%	3.96%

Total Value	Total Value	Internal Rate of Return
(Reported Value + Distributions)	То	IRR, Since Inception
	Capital Call Ratio	
\$382,339,310	1.13	4.44%

# Dallas Police & Fire Pension System Private Equity & Debt Funds - IRR Summary

Investment Name	Vintage Year	Commitment Amount	QTD	YTD	1 Year	3 Year	5 Year	Inception
Ashmore Global Special Situations Fund IV	2007	70,000,000	3.64	3.64	17.97	-9.33	-12.91	-8.63
BankCap Partners Fund I	2007	20,000,000	-5.38	-5.38	-7.24	-1.05	-1.01	-2.07
BankCap Partners Opportunity Fund, LP	2013	20,000,000	-1.28	-1.28	13.32			0.61
CDK Southern Cross	2008	10,000,000	-100.00	-100.00	89.44	-47.01	-28.39	-20.08
HM Capital Sector Performance Fund	2008	47,300,000				-4.53	14.00	-4.01
Hudson Clean Energy Partners	2009	25,000,000	-1.58	-1.58	2.24	-1.77	-6.77	-3.48
Huff Alternative Fund	2000	66,795,718	-4.30	-4.30	7.46	1.27	2.75	1.14
Huff Alternative Income Fund	1994	40,000,000						17.82
Huff Energy Fund	2006	100,000,000	20.56	20.56	24.10	-12.45	-3.87	5.72
Kainos Capital Partners, L.P.	2013	35,000,000	7.48	7.48	37.88			29.04
Levine Leichtman Capital Partners IV	2008	50,000,000	2.20	2.20	29.58	9.96	21.26	19.91
Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	2.18	2.18	13.23			12.45
Levine Leichtman Deep Value Fund	2006	75,000,000	2.26	2.26	3.54	-4.37	-2.12	1.22
Levine Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	4.21	4.21	4.04	2.95		2.40
Lone Star CRA Fund	2008	50,000,000	2.94	2.94	-41.27	-22.89	-5.64	18.09
Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	-0.11	-0.11	16.69			5.67
Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	-4.68	-4.68	-0.09	57.08		49.24
Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	-8.43	-8.43	-1.66			27.35
Lone Star Growth Capital	2006	16,000,000	2.18	2.18	-13.57	-13.86	5.81	8.67
Lone Star Opportunities Fund V, LP	2012	75,000,000	2.09	2.09	-58.85	-28.29		-11.57
Merit Energy Partners E-I	2004	7,018,930	2.35	2.35	-20.15	-4.68	1.80	15.10
Merit Energy Partners F-I	2005	8,748,346	4.01	4.01	-40.98	-29.25	-23.38	-17.09
Merit Energy Partners G, LP	2008	39,200,000	9.32	9.32	-14.88	-9.23	-7.36	-3.17
Merit Energy Partners H, LP	2010	10,000,000	3.74	3.74	-14.22	-9.30		-8.02
North Texas Opportunity Fund	2000	10,000,000	-2.21	-2.21	-7.22	-13.44	-12.82	3.25
Oaktree Loan Fund 2X	2007	60,000,000	-0.88	-0.88	-23.38	-5.56	1.07	2.64
Oaktree Power Fund III	2011	30,000,000	5.06	5.06	30.85	16.07	16.96	14.10
OCM Opportunities Fund IV	2001	50,000,000	10.06	10.06	0.12	23.24	12.82	28.36
Pharos Capital Co-Investment, LLC	2007	20,000,000				-3.53	18.18	-9.92
Pharos Capital Co-Investments, LP	2008	40,000,000	-0.14	-0.14	14.04	28.49	15.21	9.04
Pharos Capital Partners IIA, L.P.	2005	20,000,000	-5.60	-5.60	-17.31	-4.32	0.02	4.97
Pharos Capital Partners III, LP	2012	50,000,000	8.85	8.85	7.56	-0.53		-4.32
Yellowstone Energy Ventures II, L.P.	2008	5,283,254	9.53	9.53	-57.72	-47.16	-38.01	-32.80
Dallas Police & Fire Pension System	- -	1,185,346,248	6.19	6.19	5.14	-2.76	1.62	5.00

# Dallas Police & Fire Pension System Private Equity & Debt Funds - Performance Analysis by Strategy Type

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
110 Growth Equity													
1 BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	2,485,941	14,642,715	17,128,656	-2,871,344	100%	0.12	0.86	-2.07%
2 BankCap Partners Opportunity Fund, LP	2013	20,000,000	12,424,126	7,575,874	0	0	12,505,127	12,505,127	81,001	62%	0.00	1.01	0.61%
3 Hudson Clean Energy Partners	2009	25,000,000	24,912,744	87,256	0	3,661,896	17,669,588	21,331,484	-3,581,260	100%	0.15	0.86	-3.48%
4 Lone Star CRA Fund	2008	50,000,000	7,352,941	50,000,000	0	12,928,698	9,524,743	22,453,441	15,100,500	15%	1.76	3.05	18.09%
5 Lone Star Growth Capital	2006	16,000,000	12,800,000	16,000,000	0	12,800,000	9,882,945	22,682,945	9,882,945	80%	1.00	1.77	8.67%
6 Lone Star Opportunities Fund V, LP	2012	75,000,000	18,750,000	56,250,000	0	443,746	15,372,008	15,815,754	-2,934,246	25%	0.02	0.84	-11.57%
7 North Texas Opportunity Fund	2000	10,000,000	10,000,000	0	0	8,798,464	4,695,538	13,494,002	3,494,002	100%	0.88	1.35	3.25%
8 Pharos Capital Partners IIA, L.P.	2005	20,000,000	19,800,000	0	0	10,896,166	15,225,923	26,122,089	6,322,089	99%	0.55	1.32	4.97%
9 Pharos Capital Partners III, LP	2012	50,000,000	19,750,000	30,250,000	-54,286	1,063,488	17,388,491	18,451,979	-1,243,735	40%	0.05	0.94	-4.32%
Subtotal: 110 Growth Equity		286,000,000	145,789,811	160,163,130	-54,286	53,078,399	116,907,078	169,985,477	24,249,952	48%	0.36	1.17	3.43%
120 Buyouts													
1 HM Capital Sector Performance Fund	2008	47,300,000	44,354,248	0	1,933,378	39,792,545	0	39,792,545	-6,495,081	100%	0.86	0.86	-4.01%
2 Huff Alternative Fund	2000	66,795,718	66,795,718	0	12,022,676	52,998,260	32,090,727	85,088,987	6,270,593	100%	0.67	1.08	1.14%
3 Huff Alternative Income Fund	1994	40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	100%	1.59	1.59	17.82%
4 Kainos Capital Partners, L.P.	2013	35,000,000	25,795,067	9,204,933	0	3,495,816	31,532,531	35,028,347	9,233,280	74%	0.14	1.36	29.04%
5 Levine Leichtman Capital Partners IV	2008	50,000,000	38,090,461	11,909,539	0	51,056,556	24,340,074	75,396,630	37,306,169	76%	1.34	1.98	19.91%
6 Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	14,498,971	10,501,029	-4,405	967,288	16,074,999	17,042,287	2,547,721	58%	0.07	1.18	12.45%
7 Oaktree Power Fund III	2011	30,000,000	19,344,870	10,655,130	0	15,556,208	11,504,302	27,060,510	7,715,640	64%	0.80	1.40	14.10%
Subtotal: 120 Buyouts		294,095,718	248,879,334	42,270,632	15,970,325	230,806,870	115,542,633	346,349,503	81,499,844	85%	0.87	1.31	7.96%
150 Distressed													
1 Ashmore Global Special Situations Fund IV	2007	70,000,000	70,000,000	0	0	37,522,325	5,249,165	42,771,490	-27,228,510	100%	0.54	0.61	-8.63%
2 Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	78,666,167	11,842,397	90,508,564	4,482,902	100%	0.91	1.05	1.22%
3 Levine Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	18,067,397	6,932,603	-175	0	19,091,776	19,091,776	1,024,554	72%	0.00	1.06	2.40%
4 Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	11,863,677	23,136,323	0	211,751	11,945,435	12,157,186	293,510	34%	0.02	1.02	5.67%
5 Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,459,112	1,540,888	0	37,895,460	4,608,259	42,503,719	19,044,607	94%	1.62	1.81	49.24%
6 Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	19,660,978	5,339,022	0	13,318,016	13,365,505	26,683,521	7,022,542	79%	0.68	1.36	27.35%
7 Oaktree Loan Fund 2X	2007	60,000,000	60,000,000	0	0	64,287,256	1,807,786	66,095,042	6,095,042	100%	1.07	1.10	2.64%
8 OCM Opportunities Fund IV	2001	50,000,000	50,000,000	0	0	82,364,001	164,011	82,528,012	32,528,012	100%	1.65	1.65	28.36%
Subtotal: 150 Distressed		365,000,000	328,051,165	36,948,835	11,025,487	314,264,975	68,074,335	382,339,310	43,262,658	90%	0.93	1.13	4.44%
200 Co-Investment													
1 Pharos Capital Co-Investment, LLC	2007	20,000,000	20,000,000	0	0	10,019,157	0	10,019,157	-9,980,843	100%	0.50	0.50	-9.92%
2 Pharos Capital Co-Investments, LP	2008	40,000,000	40,000,000	0	0	67,397,892	2,849,698	70,247,590	30,247,590	100%	1.68	1.76	9.04%
Subtotal: 200 Co-Investment		60,000,000	60,000,000	0	0	77,417,049	2,849,698	80,266,747	20,266,747	1000/-	1.29	1.34	4.40%

#### Private Equity & Debt Funds - Performance Analysis by Strategy Type

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
210 Direct Investment													
1 CDK Southern Cross	2008	10,000,000	1,535,316	395,684	0	0	0	0	-1,535,316	15%	0.00	0.00	-20.08%
Subtotal: 210 Direct Investment		10,000,000	1,535,316	395,684	0	0	0	0	-1,535,316	80%	0.00	0.00	-20.08%
400 Energy													
1 Huff Energy Fund	2006	100,000,000	99,880,021	119,979	-947,331	4,477,394	135,647,606	140,125,000	41,192,310	100%	0.05	1.42	5.72%
2 Merit Energy Partners E-I	2004	7,018,930	7,018,930	0	-1,741	12,737,361	2,881,699	15,619,060	8,601,871	100%	1.82	2.23	15.10%
3 Merit Energy Partners F-I	2005	8,748,346	8,748,346	0	0	3,644,724	189,065	3,833,789	-4,914,557	100%	0.42	0.44	-17.09%
4 Merit Energy Partners G, LP	2008	39,200,000	39,200,000	0	0	6,532,135	28,742,134	35,274,269	-3,925,731	100%	0.17	0.90	-3.17%
5 Merit Energy Partners H, LP	2010	10,000,000	8,186,074	1,813,926	0	749,908	5,881,881	6,631,789	-1,554,285	82%	0.09	0.81	-8.02%
6 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	5,112,307	170,947	0	1,038,711	511,359	1,550,070	-3,562,237	97%	0.20	0.30	-32.80%
Subtotal: 400 Energy		170,250,530	168,145,678	2,104,852	-949,072	29,180,233	173,853,744	203,033,977	35,837,371	99%	0.17	1.21	3.75%
Total: Dallas Police & Fire Pension System	m	1,185,346,248	952,401,304	241,883,133	25,992,454	704,747,526	477,227,488	1,181,975,013	203,581,255	80%	0.72	1.21	5.00%

#### **Private Equity & Debt Funds - Vintage Year Performance Analysis**

					3/31/2010								, ,
Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
1994													
1 Huff Alternative Income Fund	1994	40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	100%	1.59	1.59	17.82%
Subtotal: 1994	1331	40,000,000		0	2,018,676	66,940,198	0	66,940,198	24,921,522		1.59	1.59	
2000									,,				
2000													
1 Huff Alternative Fund	2000	66,795,718	66,795,718	0	12,022,676	52,998,260	32,090,727	85,088,987	6,270,593	100%	0.67	1.08	1.14%
2 North Texas Opportunity Fund	2000	10,000,000	10,000,000	0	0	8,798,464	4,695,538	13,494,002	3,494,002	100%	0.88	1.35	3.25%
Subtotal: 2000		76,795,718	76,795,718	0	12,022,676	61,796,724	36,786,265	98,582,989	9,764,595	100%	0.70	1.11	1.50%
2001													
1 OCM Opportunities Fund IV	2001	50,000,000	50,000,000	0	0	82,364,001	164,011	82,528,012	32,528,012	100%	1.65	1.65	28.36%
Subtotal: 2001	2001	50,000,000		0	0	82,364,001	164,011	82,528,012	32,528,012		1.65		
2004													
1 Merit Energy Partners E-I	2004	7,018,930	7,018,930	0	-1,741	12,737,361	2,881,699	15,619,060	8,601,871	100%	1.82	2.23	15.10%
Subtotal: 2004		7,018,930	7,018,930	0	-1,741	12,737,361	2,881,699	15,619,060	8,601,871	100%	1.82	2.23	15.10%
2005													
1 Merit Energy Partners F-I	2005	8,748,346	8,748,346	0	0	3,644,724	189,065	3,833,789	-4,914,557	100%	0.42	0.44	-17.09%
2 Pharos Capital Partners IIA, L.P.	2005	20,000,000		0	0	10,896,166	15,225,923	26,122,089	6,322,089	99%	0.55	1.32	4.97%
Subtotal: 2005		28,748,346		0	0	14,540,890	15,414,988	29,955,878	1,407,532	100%		1.05	0.82%
2006													
1 Huff Energy Fund	2006	100,000,000	99,880,021	119,979	-947,331	4,477,394	135,647,606	140,125,000	41,192,310	100%	0.05	1.42	5.72%
Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	78,666,167	11,842,397	90,508,564	4,482,902	100%	0.91	1.05	1.22%
3 Lone Star Growth Capital	2006	16,000,000		16,000,000	0	12,800,000	9,882,945	22,682,945	9,882,945	80%	1.00	1.77	8.67%
Subtotal: 2006		191,000,000	187,680,021	16,119,979	10,078,331	95,943,561	157,372,948	253,316,509	55,558,157	92%	0.49	1.28	4.56%
2007													
1 Ashmore Global Special Situations Fund IV	2007	70,000,000	70,000,000	0	0	37,522,325	5,249,165	42,771,490	-27,228,510	100%	0.54	0.61	-8.63%
2 BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	2,485,941	14,642,715	17,128,656	-2,871,344	100%	0.12	0.86	-2.07%
3 Oaktree Loan Fund 2X	2007	60,000,000	60,000,000	0	0	64,287,256	1,807,786	66,095,042	6,095,042	100%	1.07	1.10	2.64%
4 Pharos Capital Co-Investment, LLC	2007	20,000,000	20,000,000	0	0	10,019,157	0	10,019,157	-9,980,843	100%	0.50	0.50	-9.92%
Subtotal: 2007		170,000,000	170,000,000	0	0	114,314,678	21,699,666	136,014,345	-33,985,655	100%	0.67	0.80	-4.37%
2008							1		·				
1 CDK Southern Cross	2008	10,000,000	1,535,316	395,684	0	0	0	0	-1,535,316	15%	0.00	0.00	-20.08%
2 HM Capital Sector Performance Fund	2008	47,300,000		0	1,933,378	39,792,545	0	39,792,545	-6,495,081	100%	0.86	0.86	-4.01%
3 Levine Leichtman Capital Partners IV	2008	50,000,000		11,909,539	0	51,056,556	24,340,074	75,396,630	37,306,169	76%	1.34	1.98	19.91%
4 Lone Star CRA Fund	2008	50,000,000		50,000,000	0	12,928,698	9,524,743	22,453,441	15,100,500	15%	1.76		18.09%
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#### **Private Equity & Debt Funds - Vintage Year Performance Analysis**

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
5 Merit Energy Partners G, LP	2008	39,200,000	39,200,000	0	0	6,532,135	28,742,134	35,274,269	-3,925,731	100%	0.17	0.90	-3.17%
6 Pharos Capital Co-Investments, LP	2008	40,000,000	40,000,000	0	0	67,397,892	2,849,698	70,247,590	30,247,590	100%	1.68	1.76	9.04%
7 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	5,112,307	170,947	0	1,038,711	511,359	1,550,070	-3,562,237	97%	0.20	0.30	-32.80%
Subtotal: 2008		241,783,254	175,645,272	62,476,171	1,933,378	178,746,537	65,968,008	244,714,545	67,135,894	74%	1.01	1.38	7.24%
2009													
1 Hudon Class Facure Postages	2000	25 000 000	24.012.744	07.256	0	2.661.006	17.660.500	21 221 404	2 501 260	1000/	0.15	0.06	2.400/
1 Hudson Clean Energy Partners	2009	25,000,000	24,912,744	87,256	0	3,661,896	17,669,588	21,331,484	-3,581,260	100%	0.15	0.86	-3.48%
Subtotal: 2009		25,000,000	24,912,744	87,256	0	3,661,896	17,669,588	21,331,484	-3,581,260	100%	0.15	0.86	-3.48%
2010													
1 Merit Energy Partners H, LP	2010	10,000,000	8,186,074	1,813,926	0	749,908	5,881,881	6,631,789	-1,554,285	82%	0.09	0.81	-8.02%
Subtotal: 2010		10,000,000	8,186,074	1,813,926	0	749,908	5,881,881	6,631,789	-1,554,285	82%	0.09	0.81	-8.02%
2011													
1 Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,459,112	1,540,888	0	37,895,460	4,608,259	42,503,719	19,044,607	94%	1.62	1.81	49.24%
2 Oaktree Power Fund III	2011	30,000,000	19,344,870	10,655,130	0	15,556,208	11,504,302	27,060,510	7,715,640	64%	0.80	1.40	14.10%
Subtotal: 2011		55,000,000	42,803,982	12,196,018	0	53,451,668	16,112,561	69,564,229	26,760,247	78%	1.25	1.63	30.68%
2012													
1 Levine Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	18,067,397	6,932,603	-175	0	19,091,776	19,091,776	1,024,554	72%	0.00	1.06	2.40%
2 Lone Star Opportunities Fund V, LP	2012	75,000,000	18,750,000	56,250,000	0	443,746	15,372,008	15,815,754	-2,934,246	25%	0.02	0.84	-11.57%
3 Pharos Capital Partners III, LP	2012	50,000,000	19,750,000	30,250,000	-54,286	1,063,488	17,388,491	18,451,979	-1,243,735	40%	0.05	0.94	-4.32%
Subtotal: 2012		150,000,000	56,567,397	93,432,603	-54,461	1,507,234	51,852,275	53,359,509	-3,153,427	38%	0.03	0.94	-3.22%
2013													
1 BankCap Partners Opportunity Fund, LP	2013	20,000,000	12,424,126	7,575,874	0	0	12,505,127	12,505,127	81,001	62%	0.00	1.01	0.61%
2 Kainos Capital Partners, L.P.	2013	35,000,000	25,795,067	9,204,933	0	3,495,816	31,532,531	35,028,347	9,233,280	74%	0.14	1.36	29.04%
3 Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	14,498,971	10,501,029	-4,405	967,288	16,074,999	17,042,287	2,547,721	58%	0.07	1.18	12.45%
4 Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	19,660,978	5,339,022	0	13,318,016	13,365,505	26,683,521	7,022,542	79%	0.68	1.36	27.35%
Subtotal: 2013		105,000,000	72,379,143	32,620,857	-4,405	17,781,119	73,478,162	91,259,281	18,884,544	69%	0.25	1.26	20.84%
2014													
1 Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	11,863,677	23,136,323	0	211,751	11,945,435	12,157,186	293,510	34%	0.02	1.02	5.67%
Subtotal: 2014		35,000,000	11,863,677	23,136,323	0	211,751	11,945,435	12,157,186	293,510	34%	0.02	1.02	5.67%
Total: Dallas Police & Fire Pension System		1,185,346,248	952,401,304	241,883,133	25,992,454	704,747,526	477,227,488	1,181,975,013	203,581,255	80%	0.72	1.21	5.00%





First Quarter 2016 Private Real Assets Program (Real Estate, Infrastructure, Natural Resources)

# Real Assets Portfolio Summary by Asset Class

The following table presents the status of the DPFP **REAL ESTATE** portfolio as of March 31, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$1,426,473,648	\$0	\$1,393,353,837	\$456,408,240	\$650,345,810	97.68%	32.76%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of	Real Estate Target	Reported Value of Total	Market Exposure as a %
Commitment	omanaea communency	3/31/2016		Fund	Total Fund
\$33,119,811	\$683,465,621	\$2,654,819,526	12%	24.50%	25.74%

Total Value	Total Value	Internal Rate of Return
(Reported Value + Distributions)	То	IRR, Since Inception
	Capital Call Ratio	
\$1,106,754,050	0.79	-5.31%

The following table presents the status of the DPFP **NATURAL RESOURCES** portfolio as of March 31, 2016:

Since Inception Commitmen		Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$233,797,2	92 \$0	\$233,797,292	\$161,825,126	\$294,969,814	100.00%	69.22%

	Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 3/31/2016	Natural Resources Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
Γ	\$0	\$294,969,814	\$2,654,819,526	5%	11.11%	11.11%

Total Value	Total Value	Internal Rate of Return
(Reported Value + Distributions)	То	IRR, Since Inception
	Capital Call Ratio	
\$456,794,940	1.95	10.44%

The following table presents the status of the DPFP **INFRASTRUCTURE** portfolio as of March 31, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$364,000,000	\$0	\$279,134,170	\$78,929,801	\$199,600,089	76.69%	28.28%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 3/31/2016	Infrastructure Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$84,865,830	\$284,465,919	\$2,654,819,526	5%	7.52%	10.72%

Total Value	Total Value	Internal Rate of Return
(Reported Value + Distributions)	То	IRR, Since Inception
	Capital Call Ratio	
\$278,529,890	1.00	-0.09%

#### Dallas Police & Fire Pension System Real Assets Portfolio Summary

3/31/2016<sup>1</sup>

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio
Real Estate		, <u>.</u>			2.50.1540.5115				Tueso	Ttu !!	114110
Direct Investments	Various	1,203,163,108	1,201,779,057	1,384,051	245,872,383	583,624,027	829,496,410	-372,282,647	100%	0.20	0.69
CDK Multifamily I	2014	10,409,876	10,409,876	0	0	11,026,029	11,026,029	616,153	100%	0.00	1.06
Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,970,115	2,029,885	10,989,565	447	10,990,012	3,019,897	80%	1.38	1.38
Hearthstone MS III Homebuilding Investors	2003	10,000,000	9,365,943	634,057	12,863,833	42,323	12,906,156	3,540,213	94%	1.37	1.38
Lone Star Fund III (U.S.), L.P.	2000	20,000,000	19,827,415	172,585	40,612,278	59,930	40,672,208	20,844,793	99%	2.05	2.05
Lone Star Fund IV (U.S.), L.P.	2001	20,000,000	19,045,201	954,799	43,786,407	140,572	43,926,979	24,881,778	95%	2.30	2.31
Lone Star Fund V (U.S.), L.P.	2005	22,500,000	22,500,000	0	16,414,141	5,426,198	21,840,339	-659,661	100%	0.73	0.97
Lone Star Fund VI (U.S.), L.P.	2008	25,000,000	20,005,358	4,994,642	26,884,679	5,206,643	32,091,322	12,085,964	80%	1.34	1.60
Lone Star Real Estate Fund (U.S.), L.P.	2008	25,000,000	20,719,418	4,280,582	22,817,586	3,311,910	26,129,496	5,410,078	83%	1.10	1.26
Lone Star Real Estate Fund II	2011	25,000,000	21,783,010	3,216,990	28,493,043	4,758,645	33,251,688	11,468,678	87%	1.31	1.53
Lone Star Real Estate Fund III	2014	25,000,000	21,713,204	3,286,796	4,075,417	21,705,762	25,781,179	4,067,975	87%	0.19	1.19
M&G Real Estate Debt Fund II	2013	30,369,664	18,204,240	12,165,424	3,598,909	15,043,324	18,642,233	437,993	60%	0.20	1.02
Subtotal Real Estate		1,426,473,648	1,393,353,837	33,119,811	456,408,241	650,345,810	1,106,754,051	-286,599,786	98%	0.33	0.79
Infrastructure											
AIRRO Consolidated	Various	77,000,000	42,319,254	34,680,746	4,677,250	34,388,025	39,065,275	-2,491,438	55%	0.11	0.94
JP Morgan Consolidated	Various	87,000,000	77,858,482	9,141,518	13,741,240	56,165,601	69,906,842	-7,951,237	89%	0.18	0.90
LBJ Infrastructure Group Holding, LLC (LBJ)	2009	50,000,000	44,346,229	5,653,771	1,782,000	44,436,258	46,218,258	1,872,029	89%	0.04	1.04
NTE 3a-3b	2012	50,000,000	21,984,613	28,015,387	1,490,556	21,984,613	23,475,169	1,490,555	44%	0.07	1.07
NTE Mobility Partners Holding, LLC (NTE)	2009	50,000,000	42,625,592	7,374,408	2,000,000	42,625,592	44,625,592	2,000,000	85%	0.05	1.05
RREEF North American Infrastructure Fund	2007	50,000,000	50,000,000	0	55,238,755	0	55,238,755	4,392,466	100%	1.09	1.09
Subtotal Infrastructure		364,000,000	279,134,170	84,865,830	78,929,801	199,600,089	278,529,890	-687,625	77%	0.28	1.00
Natural Resources											
Hancock Agricultural <sup>3</sup>	1998	71,820,001	71,820,001	0	89,596,343	169,753,243	259,349,586	187,529,585	100%	1.25	3.61
BTG Timberland	2006	102,327,595	102,327,595	0	9,500,000	80,905,128	90,405,128	-11,922,467	100%	0.09	0.88
FIA Timberland	1992	59,649,696	59,649,696	0	62,728,783	44,311,443	107,040,226	47,390,530	100%	1.05	1.79
Subtotal Natural Resources	·	233,797,292	233,797,292	0	161,825,126	294,969,814	456,794,940	222,997,648	100%	0.69	1.95
Total: Real Assets		2,024,270,940	1,906,285,300	117,985,641	697,163,167	1,144,915,713	1,842,078,880	-64,289,764	94%	0.37	0.97

#### Notes:

- 1. Data provided from managers as of March 31, 2016
- 2. Balance includes the Sumitomo line of credit of \$188,900,000
- 3. Hancock Agricultural performance is gross of fees and subject to change, awaiting fee reconciliation from manager



### **DISCUSSION SHEET**

#### ITEM #C4

**Topic:** Ad hoc annual adjustments for pensioners and beneficiaries

**Discussion:** In accordance with Plan Section 6.12 (c), active DROP participants and retirees who first became

members of DPFP on or after January 1, 2007 are not eligible for the automatic benefit adjustment. However, the Board may determine each year whether and at what percentage to provide an ad hoc adjustment to benefit recipients in this group. Such determination requires the opinion of the DPFP's actuary that an ad hoc adjustment would not have an adverse effect on

DPFP's ability to meet all accrued benefit obligations.

DPFP is paying benefits to 11 retirees and 3 disabled members who began membership on or after January 1, 2007 and 5 beneficiaries of a member in this category. Data on the individuals eligible to receive an ad hoc adjustment was forwarded to Segal Consulting, DPFP's actuarial consultant, for review and opinion as to whether the benefit adjustment may be paid under the provisions of Section 6.12(c). Segal recommends not granting any adjustments that result in an

increase of benefit payments.

**Staff** 

Recommendation: Not approve an ad hoc annual adjustment for retirees, disabled members, or beneficiaries of

members who began membership on or after January 1, 2007.



2018 Powers Ferry Road SE Suite 850 Atlanta, GA 30339-7200 T 678.306.3100 www.segalco.com

September 1, 2016

Board of Trustees Dallas Police & Fire Pension System 4100 Harry Hines Blvd., Suite 100 Dallas, TX 75219

Re: Ad-Hoc COLA

Members of the Board:

As requested, we are providing an actuarial opinion regarding the granting of an ad-hoc cost-of-living adjustment in 2016 to participants hired after December 31, 2006. The nineteen members eligible for such an increase were provided by Summer Loveland in her email of August 23, 2016, and include eleven service retirees, three disabled retirees, two surviving spouses and three child beneficiaries.

The increase due to an ad-hoc COLA would be considered immaterial when compared to the System's assets, which totaled \$2.7 billion as of December 31, 2015. However, the System has a projected insolvency in fifteen years, based on asset information, census data, plan provisions and actuarial assumptions in the January 1, 2016 valuation report. We do not recommend granting any change that would result in an increase in benefit payments and potentially accelerate this insolvency. Therefore, we do not recommend granting an ad-hoc COLA in 2016 for these members.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this assignment.

I am an Enrolled Actuary, a Fellow of the Conference of Consulting Actuaries, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Sincerely,

Deborah X. Brigham

Deborah K. Brigham, FCA, ASA, MAAA, EA Vice President and Actuary

8422633V1/14362.001



## **DISCUSSION SHEET**

#### ITEM #C5

**Topic:** Legal issues

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.071 of the Texas Government Code.

- **a.** Police Officer and Firefighter pay lawsuits
- **b.** Potential claims involving fiduciaries and advisors
- **c.** 2014 Plan amendment election and litigation
- **d.** Open records lawsuits
- e. Tax Qualification Plan Amendments

**Discussion:** Counsel will brief the Board on these issues.



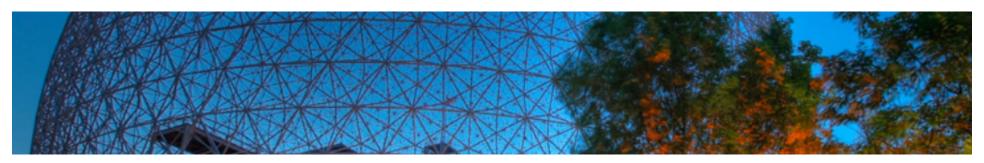
# **DISCUSSION SHEET**

## ITEM #C6

**Topic:** Investment reports

**Discussion:** Review of investment reports.





# **Investment Oversight**

As at 31st August 2016



### **Investment Oversight**

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Dallas Police & Fire Pension System

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### Data as at July 2016

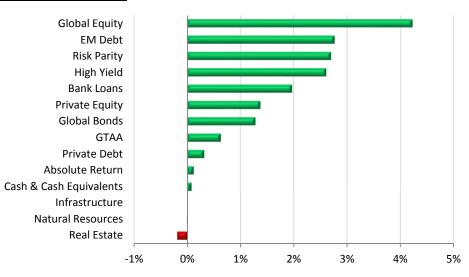
## **Asset Class Performance: Actual vs. Policy**

Dallas Police & Fire Pension System



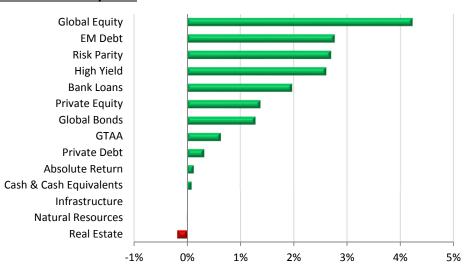
#### One Month Performance as at July 2016

		One Month	
	DPFP Return	Policy Return (Beta)	Alpha
Global Equity	4.22%	4.31%	-0.09%
Private Equity	1.37%	0.00%	1.37%
Global Bonds	1.28%	0.75%	0.53%
High Yield	2.60%	2.70%	-0.11%
Bank Loans	1.96%	1.64%	0.32%
EM Debt	2.76%	1.08%	1.68%
Private Debt	0.32%	0.00%	0.32%
Natural Resources	-0.02%	0.00%	-0.02%
Infrastructure	0.00%	0.00%	0.00%
Real Estate	-0.19%	0.00%	-0.19%
Risk Parity	2.69%	2.89%	-0.20%
GTAA	0.63%	2.89%	-2.26%
Absolute Return	0.12%	0.61%	-0.49%
Cash & Cash Equivalents	0.08%	0.03%	0.06%
Total	1.35%	1.80%	-0.44%
Total ex Real Estate	1.71%	1.80%	-0.09%



#### Quarter-to-Date Performance as at July 2016

	Quarter-to-Date					
	DPFP Return	Policy Return (Beta)	Alpha			
Global Equity	4.22%	4.31%	-0.09%			
Private Equity	1.37%	0.00%	1.37%			
Global Bonds	1.28%	0.75%	0.53%			
High Yield	2.60%	2.70%	-0.11%			
Bank Loans	1.96%	1.64%	0.32%			
EM Debt	2.76%	1.08%	1.68%			
Private Debt	0.32%	0.00%	0.32%			
Natural Resources	-0.02%	0.00%	-0.02%			
Infrastructure	0.00%	0.00%	0.00%			
Real Estate	-0.19%	0.00%	-0.19%			
Risk Parity	2.69%	2.89%	-0.20%			
GTAA	0.63%	2.89%	-2.26%			
Absolute Return	0.12%	0.61%	-0.49%			
Cash & Cash Equivalents	0.08%	0.03%	0.06%			
Total	1.35%	1.80%	-0.44%			
Total ex Real Estate	1.71%	1.80%	-0.09%			



<sup>\*</sup> Please see Appendix I (page 36) for details on the policy indexes.

\*\* Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.

### Data as at July 2016

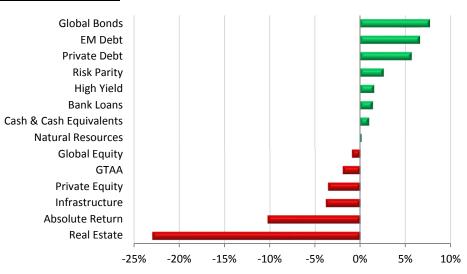
## **Asset Class Performance: Actual vs. Policy (cont.)**

Dallas Police & Fire Pension System



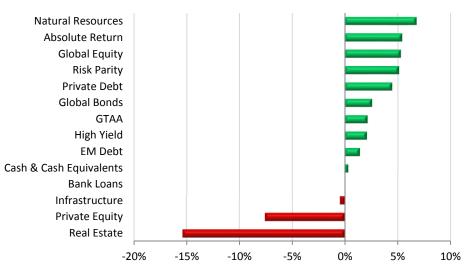
#### One Year Performance as at July 2016

		One Year	
	DPFP Return	Policy Return (Beta)	Alpha
Global Equity	-0.98%	-0.44%	-0.54%
Private Equity	-3.64%	3.04%	-6.68%
Global Bonds	7.70%	9.44%	-1.74%
High Yield	1.55%	4.98%	-3.43%
Bank Loans	1.41%	2.71%	-1.30%
EM Debt	6.60%	8.22%	-1.62%
Private Debt	5.68%	3.65%	2.04%
Natural Resources	0.17%	-9.47%	9.64%
Infrastructure	-3.88%	3.71%	-7.60%
Real Estate	-23.00%	10.64%	-33.64%
Risk Parity	2.60%	3.69%	-1.09%
GTAA	-2.00%	3.69%	-5.69%
Absolute Return	-10.33%	0.98%	-11.31%
Cash & Cash Equivalents	0.99%	0.20%	0.78%
Total	-7.14%	9.50%	-16.64%
Total ex Real Estate	-0.86%	7.99%	-8.84%



#### Three Year Performance as at July 2016

i							
	Three Year						
	DPFP Return	Policy Return (Beta)	Alpha				
Global Equity	5.30%	5.87%	-0.57%				
Private Equity	-7.57%	12.21%	-19.78%				
Global Bonds	2.60%	2.62%	-0.03%				
High Yield	2.11%	4.46%	-2.35%				
Bank Loans	n/a	2.29%	n/a				
EM Debt	1.46%	2.01%	-0.55%				
Private Debt	4.50%	6.26%	-1.77%				
Natural Resources	6.79%	-3.54%	10.32%				
Infrastructure	-0.48%	8.66%	-9.14%				
Real Estate	-15.35%	11.60%	-26.95%				
Risk Parity	5.14%	4.71%	0.43%				
GTAA	2.17%	4.71%	-2.54%				
Absolute Return	5.43%	1.74%	3.69%				
Cash & Cash Equivalents	0.36%	0.09%	0.27%				
Total	-3.12%	8.79%	-11.90%				
Total ex Real Estate	1.62%	7.04%	-5.42%				



<sup>\*</sup> Please see Appendix I (page 36) for details on the policy indexes.

\*\* Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.

# Data as at July 2016 Portfolio Attribution

Dallas Police & Fire Pension System



#### **Attribution Metrics**

- Allocation refers to the proportion of the active return that can be attributed to tactical asset allocation decisions.
- Selection refers to the proportion of the active return that can be attributed to manager selection and subsequent performance of the selected managers.
- Interaction refers to the proportion of the active return that cannot be attributed solely to tactical asset allocation decisions or manager selection.

# Data as at July 2016 Portfolio Attribution (cont.)

Dallas Police & Fire Pension System



#### One Month as at July 2016

Asset Class	Weights		Re	eturns	Attribution			
	DPFP	Policy	DPFP	Policy	Allocation (1)	Selection (2)	Interaction (3)	Active Return (1+2+3)
Global Equity	15.91%	20.00%	4.22%	4.31%	-0.10%	-0.02%	0.00%	-0.12%
EM Equity	0.00%	5.00%	0.00%	5.49%	-0.18%	-0.27%	0.27%	-0.18%
Private Equity	15.58%	5.00%	1.37%	0.00%	-0.19%	0.07%	0.14%	0.02%
Short Term Core Bonds	0.00%	2.00%	0.00%	-0.06%	0.04%	0.00%	0.00%	0.04%
Global Bonds	3.52%	3.00%	1.28%	0.75%	-0.01%	0.02%	0.00%	0.01%
High Yield	6.40%	5.00%	2.60%	2.70%	0.01%	-0.01%	0.00%	0.01%
Bank Loans	1.99%	6.00%	1.96%	1.64%	0.01%	0.02%	-0.01%	0.01%
Struc. Cred. & Abs. Ret.	0.00%	6.00%	0.00%	1.46%	0.02%	-0.09%	0.09%	0.02%
EM Debt	2.12%	6.00%	2.76%	1.08%	0.03%	0.10%	-0.07%	0.06%
Private Debt	3.52%	5.00%	0.32%	0.00%	0.03%	0.02%	0.00%	0.04%
Natural Resources	10.85%	5.00%	-0.02%	0.00%	-0.11%	0.00%	0.00%	-0.11%
Infrastructure	6.77%	5.00%	0.00%	0.00%	-0.03%	0.00%	0.00%	-0.03%
Real Estate	24.19%	12.00%	-0.19%	0.00%	-0.22%	-0.02%	-0.02%	-0.27%
Liquid Real Assets	0.00%	3.00%	0.00%	0.37%	0.04%	-0.01%	0.01%	0.04%
Risk Parity	6.26%	5.00%	2.69%	2.89%	0.01%	-0.01%	0.00%	0.00%
GTAA	4.01%	3.00%	0.63%	2.89%	0.01%	-0.07%	-0.02%	-0.08%
Absolute Return	1.15%	2.00%	0.12%	0.61%	0.01%	-0.01%	0.00%	0.00%
Cash & Cash Equivalents	3.76%	2.00%	0.08%	0.03%	-0.03%	0.00%	0.00%	-0.03%
Plan Leverage Facility	-6.04%	0.00%	0.00%	0.00%	0.11%	0.00%	0.00%	0.11%
Total	100.00%	100.00%	1.35%	1.80%	-0.55%	-0.28%	0.39%	-0.44%

<sup>\*</sup> Please see Appendix II (page 37) for details on the attribution calculation and methodology.

## Data as at July 2016 Portfolio Attribution (cont.)

Dallas Police & Fire Pension System



## Calendar YTD as at July 2016

Asset Class	Wei	ghts	Re	turns			Attribution	
Asset Class	DPFP	Policy	DPFP	Policy	Allocation (1)	Selection (2)	Interaction (3)	Active Return (1+2+3)
Global Equity	15.92%	20.00%	5.13%	5.59%	0.08%	-0.09%	0.03%	0.02%
EM Equity	0.00%	5.00%	0.00%	17.60%	-0.51%	-0.90%	0.90%	-0.51%
Private Equity	14.93%	5.00%	-2.44%	4.05%	-0.39%	-0.33%	-0.67%	-1.38%
Short Term Core Bonds	0.00%	2.00%	0.00%	1.38%	0.13%	-0.03%	0.03%	0.13%
Global Bonds	4.38%	3.00%	10.33%	9.78%	0.02%	0.02%	0.00%	0.04%
High Yield	5.97%	5.00%	13.76%	12.01%	0.04%	0.08%	0.01%	0.13%
Bank Loans	1.87%	6.00%	7.26%	7.09%	0.03%	0.01%	0.00%	0.03%
Struc. Cred. & Abs. Ret.	0.00%	6.00%	0.00%	3.76%	0.25%	-0.22%	0.22%	0.25%
EM Debt	2.10%	6.00%	9.80%	13.45%	-0.22%	-0.19%	0.13%	-0.28%
Private Debt	3.30%	5.00%	3.01%	10.13%	-0.04%	-0.35%	0.12%	-0.28%
Natural Resources	10.56%	5.00%	0.90%	16.49%	0.46%	-0.77%	-0.86%	-1.17%
Infrastructure	7.42%	5.00%	-2.51%	14.09%	0.17%	-0.83%	-0.43%	-1.10%
Real Estate	25.43%	12.00%	-6.61%	4.29%	-0.47%	-1.35%	-1.50%	-3.32%
Liquid Real Assets	0.00%	3.00%	0.00%	3.66%	0.12%	-0.11%	0.11%	0.12%
Risk Parity	7.76%	5.00%	8.01%	7.38%	-0.03%	0.03%	-0.08%	-0.08%
GTAA	4.47%	3.00%	0.83%	7.38%	-0.01%	-0.20%	-0.09%	-0.30%
Absolute Return	1.16%	2.00%	-13.47%	0.38%	0.06%	-0.30%	0.12%	-0.12%
Cash & Cash Equivalents	2.38%	2.00%	0.96%	0.16%	-0.04%	0.02%	0.00%	-0.02%
Plan Leverage Facility	-7.65%	0.00%	0.00%	0.00%	0.59%	0.00%	0.00%	0.59%
Total	100.00%	100.00%	0.68%	7.92%	0.25%	-5.52%	-1.97%	-7.24%

<sup>\*</sup> Please see Appendix II (page 37) for details on the attribution calculation and methodology.

## Data as at July 2016 Portfolio Attribution (cont.)

Dallas Police & Fire Pension System



## One Year as at July 2016

Assat Class	Wei	ghts	Re	eturns			Attribution	
Asset Class	DPFP	Policy	DPFP	Policy	Allocation (1)	Selection (2)	Interaction (3)	Active Return (1+2+3)
Global Equity	18.14%	20.00%	-0.98%	-0.44%	-0.10%	-0.11%	0.04%	-0.18%
EM Equity	0.00%	5.00%	0.00%	-4.95%	0.37%	0.25%	-0.25%	0.37%
Private Equity	14.20%	5.00%	-3.64%	3.04%	-0.02%	-0.34%	-0.68%	-1.04%
Short Term Core Bonds	0.00%	2.00%	0.00%	1.20%	0.03%	-0.02%	0.02%	0.03%
Global Bonds	3.92%	3.00%	7.70%	9.44%	0.03%	-0.05%	-0.01%	-0.03%
High Yield	6.03%	5.00%	1.55%	4.98%	0.02%	-0.17%	-0.04%	-0.20%
Bank Loans	1.82%	6.00%	1.41%	2.71%	0.01%	-0.08%	0.06%	-0.01%
Struc. Cred. & Abs. Ret.	0.00%	6.00%	0.00%	1.75%	0.07%	-0.08%	0.08%	0.07%
EM Debt	2.02%	6.00%	6.60%	8.22%	-0.19%	-0.07%	0.04%	-0.22%
Private Debt	3.24%	5.00%	5.68%	3.65%	-0.02%	0.13%	-0.06%	0.05%
Natural Resources	10.21%	5.00%	0.17%	-9.47%	-0.46%	0.43%	0.28%	0.25%
Infrastructure	7.08%	5.00%	-3.88%	3.71%	0.06%	-0.35%	-0.27%	-0.56%
Real Estate	26.21%	12.00%	-23.00%	10.64%	1.27%	-4.23%	-5.21%	-8.17%
Liquid Real Assets	0.00%	3.00%	0.00%	5.67%	-0.09%	-0.16%	0.16%	-0.09%
Risk Parity	8.04%	5.00%	2.60%	3.69%	0.01%	-0.05%	-0.14%	-0.19%
GTAA	4.36%	3.00%	-2.00%	3.69%	0.00%	-0.16%	-0.08%	-0.24%
Absolute Return	1.14%	2.00%	-10.33%	0.98%	0.01%	-0.20%	0.06%	-0.12%
Cash & Cash Equivalents	2.17%	2.00%	0.99%	0.20%	-0.11%	0.02%	0.00%	-0.10%
Plan Leverage Facility	-8.59%	0.00%	0.00%	0.00%	0.07%	0.00%	0.00%	0.07%
Total	100.00%	100.00%	-7.14%	3.15%	0.96%	-5.26%	-5.99%	-10.28%

<sup>\*</sup> Please see Appendix II (page 37) for details on the attribution calculation and methodology.

## Data as at July 2016

**Asset Allocations: Monthly Changes** 



Dallas Police & Fire Pension System

#### The total NAV of the portfolio at July 31st 2016 is 2,671,978,762

- P&L of the portfolio increased by \$36 million.
- \$17 million was added in contributions, \$30 million paid in benefits.
- No new managers were added during the month.
- No managers were liquidated during the month.

## **Top Performing Asset Classes**

Asset Class	Performance (July)				
Asset Class	\$	%			
Global Equity	17,805,245	4.22%			
Private Equity	5,649,775	1.37%			
Risk Parity	4,454,772	2.69%			

#### **Top Performing Holdings**

Holding	Performand	e (July)
Holding	\$	%
OFI Global Institutional	7,472,119	6.48%
Loomis Sayles	3,877,923	3.15%
Pyramis (Fidelity)	3,517,026	3.69%

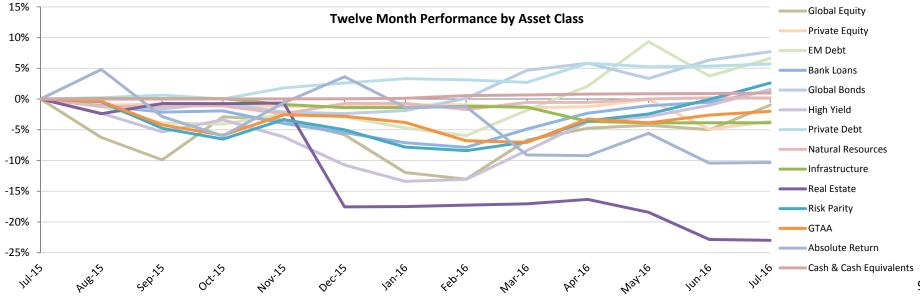
- Strategy with the largest cash net inflow in July: Infrastructure
- Strategy with the largest cash net outflow in July: Real Estate
- Over the past 12 months, the largest increase in allocation was in Private Equity
- Over the past 12 months, the largest decrease in allocation was in Global Equity

## **Bottom Performing Asset Classes**

Asset Class	Performance (July)				
Asset Class	\$	%			
Real Estate	(1,226,099)	-0.19%			
Natural Resources	(50,157)	-0.02%			
Infrastructure	(1,461)	0.00%			

#### **Bottom Performing Holdings**

Holding	Performance (July)					
Holding	\$	%				
RE Separate Accounts	(1,115,855)	-0.19%				
Mitchell Group	(421,958)	-1.45%				
M&G Real Estate Debt Fund II	(112,237)	-0.68%				



## Data as at July 2016 Asset Allocations: Notable Cashflows

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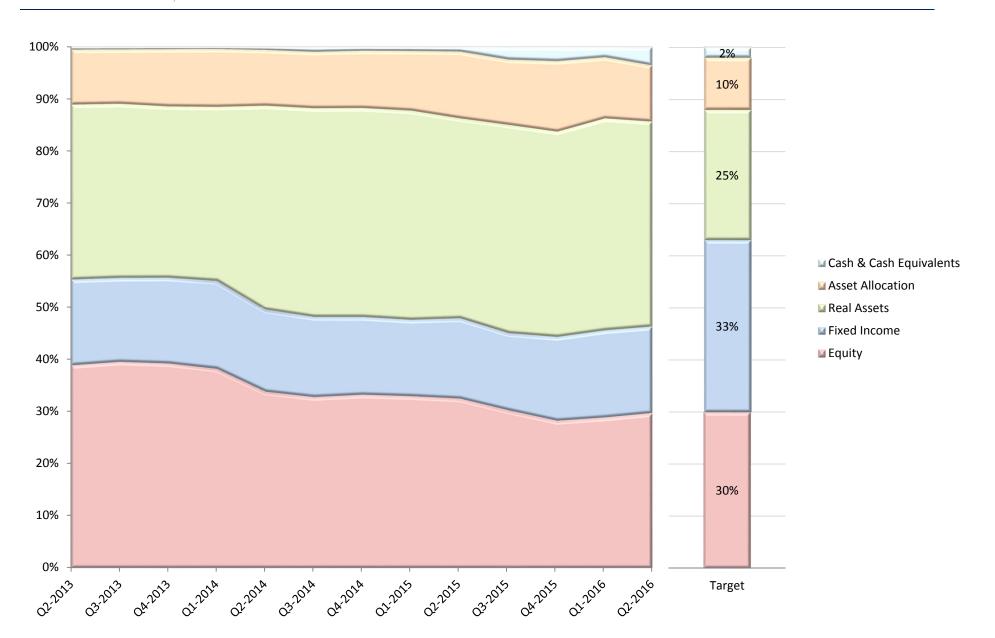
Dallas Police & Fire Pension System

## Cashflows over \$3mm USD

Inflow/(Outflow)	Holding	Purpose
(10,000,000)	B of A LOAN DTD 3/31/2014 Revolver Loan	Paydown
3,196,726	RE Separate Accounts	Asset Sale
(3,068,712)	Lone Star Fund IX, L.P.	Capital Call

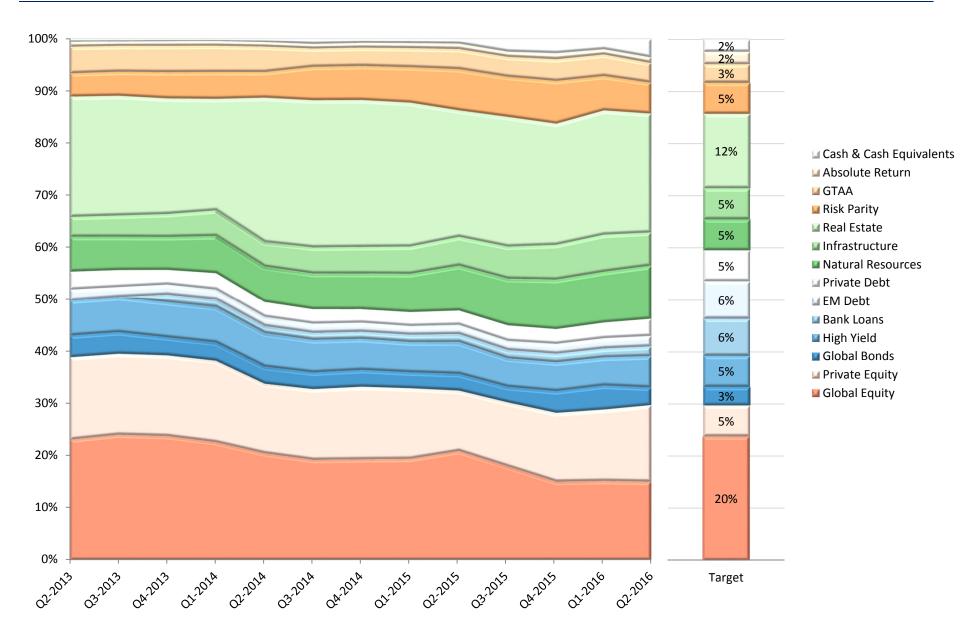
## Data as at July 2016 Asset Allocations: Over Time (Quarterly)

MAPLES STUD SERVICES



## Data as at July 2016

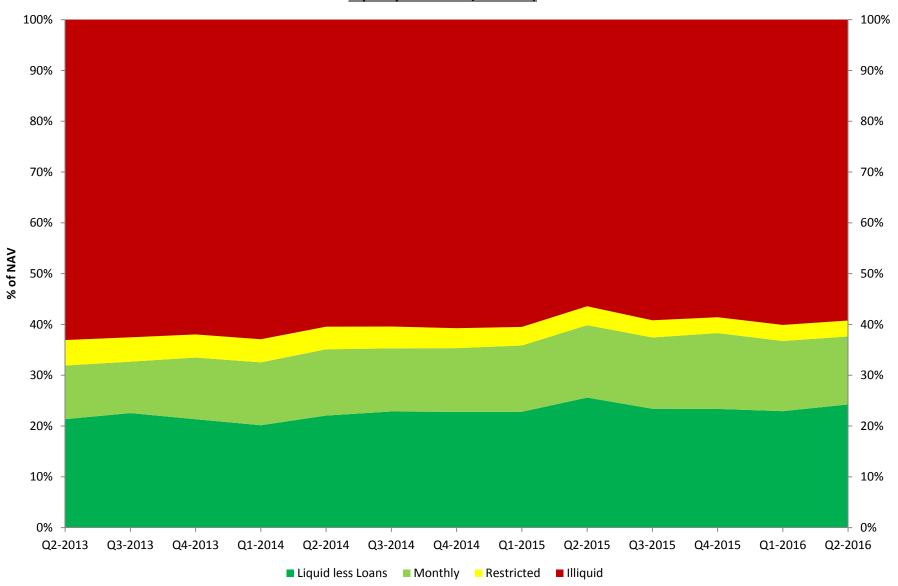




## Data as at July 2016 Liquidity Over Time (Quarterly)



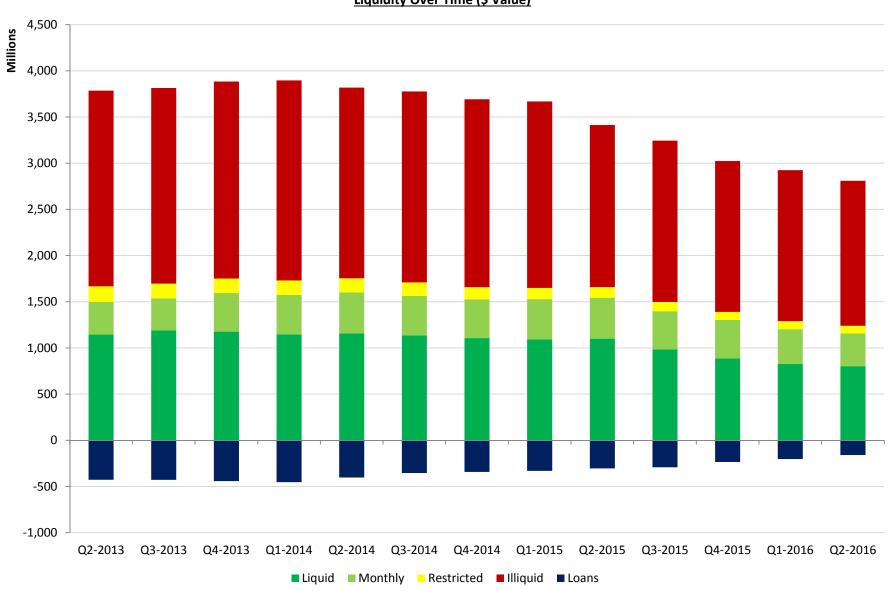




## Data as at July 2016 Liquidity Over Time (Quarterly) (cont.)

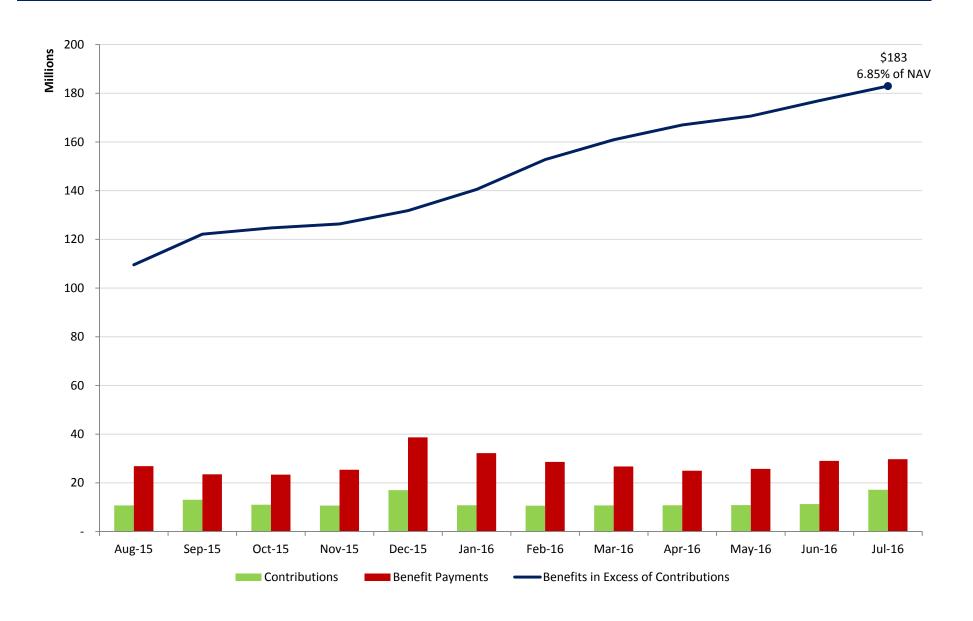






## Data as at July 2016 Trailing 12 Month Funding Gap

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## Data as at July 2016

## Long Term Plan Risk/Return vs Policy and 60/40

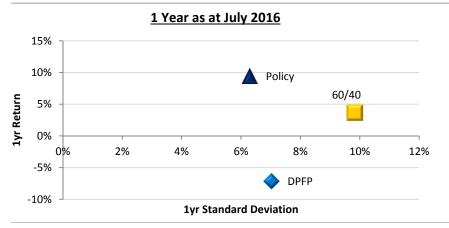
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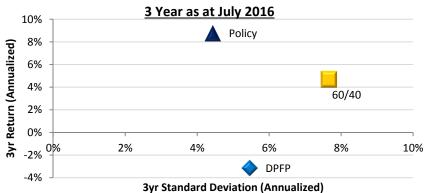
Dallas Police & Fire Pension System

### **Trend Commentary**

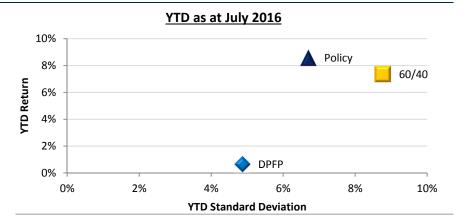
- The DPFP portfolio is less volatile than the 60/40 portfolio across all time horizons.
- The DPFP portfolio is less volatile than the Policy benchmark across the 5 year time horizon.

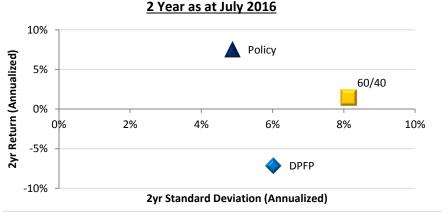
Note: Higher allocations to illiquid assets tend to deemphasize volatility due to the infrequency of marks received. This may be particularly acute in the case of the DPFP plan portfolio.

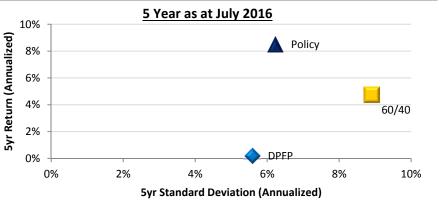




<sup>\*</sup> Please see Appendix I (page 36) for details on the composition of the 60/40 and Policy benchmarks.





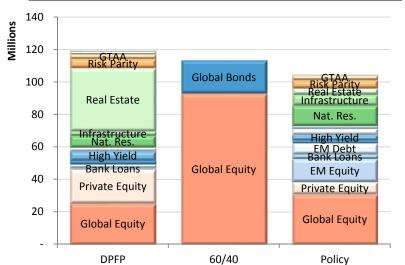


## Data as at July 2016 Risk Profile

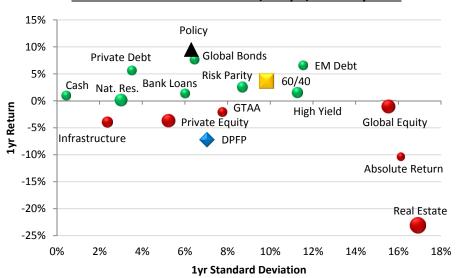
Dallas Police & Fire Pension System



## Five Year Value at Risk (95% Confidence Level) as at July 2016

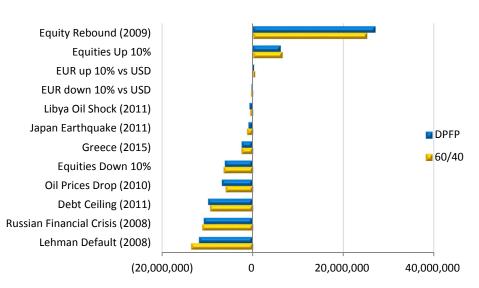


#### Sub-Asset Class Risk vs Return (Sharpe) as at July 2016



## Portfolio Stress Testing as at July 2016

Scenario	P&L (\$)	P&L (%)
Equity Rebound (2009)	27,036,964	25.01%
Equities Up 10%	6,168,467	5.71%
EUR up 10% vs USD	255,867	0.24%
EUR down 10% vs USD	(255,513)	-0.24%
Libya Oil Shock (2011)	(728,047)	-0.67%
Japan Earthquake (2011)	(946,202)	-0.88%
Greece (2015)	(2,452,600)	-2.27%
Equities Down 10%	(6,164,081)	-5.70%
Oil Prices Drop (2010)	(6,810,778)	-6.30%
Debt Ceiling (2011)	(9,844,323)	-9.11%
Russian Financial Crisis (2008)	(10,817,558)	-10.01%
Lehman Default (2008)	(11,869,404)	-10.98%



<sup>\*</sup> Stress Test Scenarios and the proxy instruments used are detailed in Appendix I (page 36).

<sup>\*\*</sup> Value at Risk on the DPFP portfolio is significantly higher than the policy, as realized losses and volatility are significant within the DPFP portfolio. This is particularly true in the case of the Real Estate Portfolio, which also contains leverage.

## Data as at July 2016 Equity Overview – Global Equity



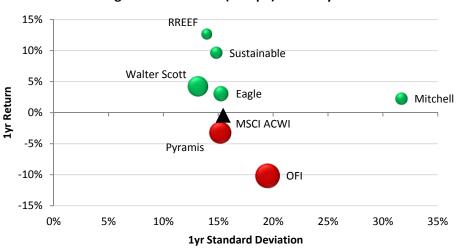
Dallas Police & Fire Pension System

#### Commentary

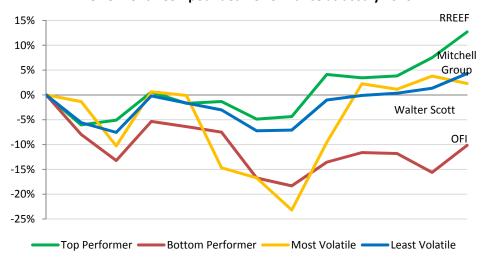
- Equity markets around the world continued to rally in the wake of June's Brexit thanks to
  continued central bank stimulus and stronger-than-expected Q2 earnings results. The S&P 500
  posted seven new closing highs in July en route to a broad 3.6% gain while the tech-heavy
  NASDAQ gained 7.1%.
- Global equities saw similar exuberance, adding \$1.84 trillion in market value and bringing year-to-date global market value up \$1.48 trillion. Stand-out equity markets included the German Dax (+6.8%), Japan's Nikkei (+6.4%), and the Brazilian Bovespa (+11.2%).
- In the United Kingdom, less than a month after the UK voted to be the first member of the EU to
  leave since its formation in 1993, Conservative leader Theresa May was appointed Prime
  Minister, easing investor anxiety over the nation's vote to leave the EU. Non-intuitively, the FTSE
  100 (UK large cap index) gained 3.4% due to the large percentage of multi-nationals in the index
  which generate revenue abroad that should benefit from the depreciation of the British Pound,
  which fell 0.6% on the month.
- On the night of Friday July 15th, Turkey saw a failed military coup. Turkey's army ultimately seized control and President Erdogan remained in power, only to institute a state of emergency and country-wide crackdown on dissidents. Moody's placed Turkey on negative watch and the Lira finished the month down 3.9% while the Borsa Istanbul 100 Index fell 1.8%.
- Equity market volatility decreased month-over-month as the VIX closed July at 12.0, down from
  15.6 at the end of June. The VIX slipped below 12.0 for the first time in a year, but this decline
  likely reflects low realized volatility rather than complacency. The steep VIX curve likely means
  the market is pricing in future risks and uncertainty.

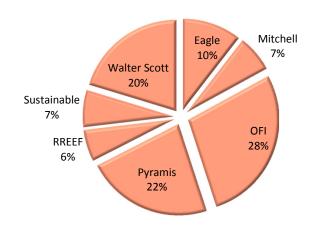
  Source Cliffwater

#### Manager Risk vs Return (Sharpe) as at July 2016



#### Twelve Month Compounded Performance as at July 2016

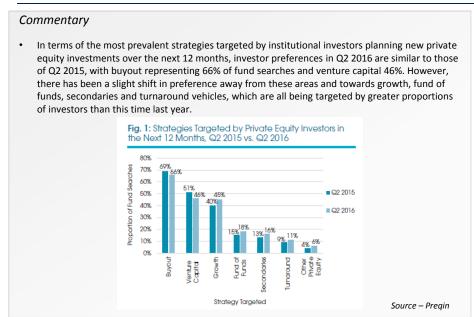




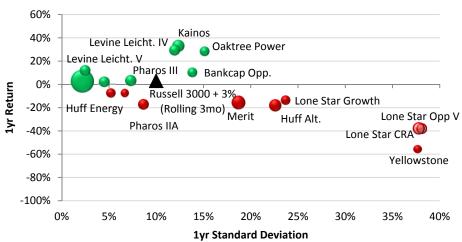
## Data as at July 2016 Equity Overview – Private Equity



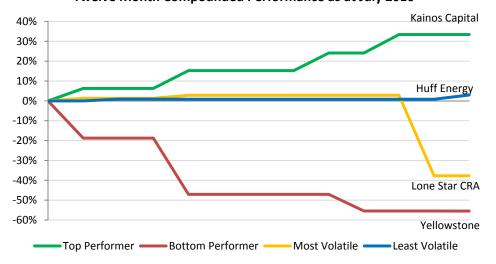
Dallas Police & Fire Pension System

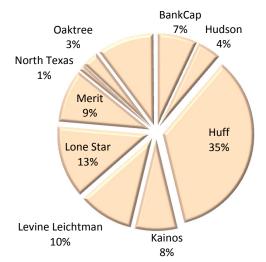


#### Manager Risk vs Return (Sharpe) as at July 2016



#### Twelve Month Compounded Performance as at July 2016





## Data as at July 2016 Fixed Income Overview

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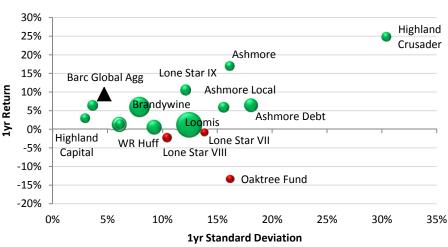
Dallas Police & Fire Pension System

#### Commentary

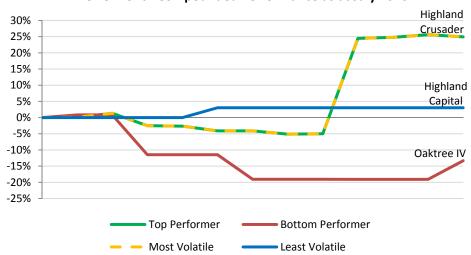
- While global fixed income benefitted from a massive flight-to-quality rally at the end of June, fixed income markets were mixed in July. German 10Y bund yields gained 1bps to -0.12% and US10Y yields fell 2bps to 1.45%, but the largest sovereign rally in July was UK 10-year Gilt yields, which fell 18bps to a new all-time low of 0.69%. Japanese 10Y JGBs suffered their biggest slump since 2013 when the Bank of Japan disappointed markets by not dropping 'helicopter money' and 10Y JGBs sold off 6bps to -0.18%.
- At the July FOMC meeting, as expected, the Fed made no changes to its policy stance and only hinted at the possibility of a rate hike in the near term. The US 2Q GDP print disappointed at +1.2% (vs. +2.5% annualized) and 1Q GDP growth was revised lower to +0.8% from +1.1%. The US Treasury yield curve flattened on the month with the long-end outperforming the short-end. Though still near its all-time low of 1.32% on July 7, yields on US 10Y treasuries eclipse those on similar-maturity obligations of 17 other developed-market economies.
- The ECB also left key interest rates, including the main deposit rate (which remains at -0.4%),
  unchanged in July, which was widely expected. President Draghi reiterated that the central bank
  was ready to act if necessary but officials wanted to "reassess the underlying macroeconomic
  conditions" and data before making a decision. On July 13, Germany became the first country in
  the eurozone to sell 10-year debt with a negative yield at an auction. The Euro rallied 0.6% for the
  month.
- In the US, the Barclays High Yield Corporate Bond Index was up 2.3% and leveraged loans were
  up 1.4%, leading fixed income-related non-sovereign securities to strong results for the month.

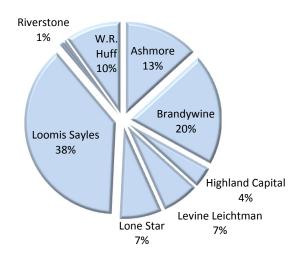
Source - Cliffwater

## Manager Risk vs Return (Sharpe) as at July 2016



#### Twelve Month Compounded Performance as at July 2016





## Data as at July 2016 Asset Allocation Overview

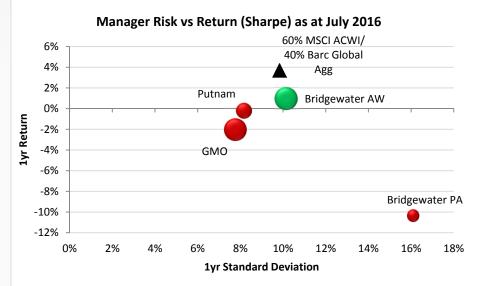


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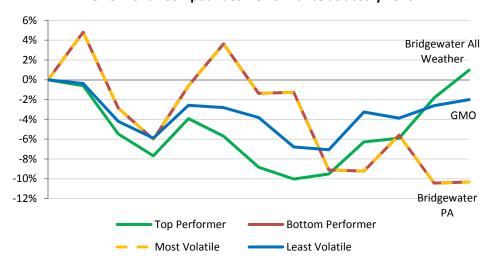
#### Commentary

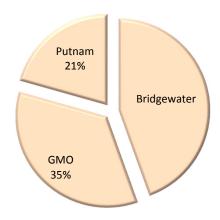
- In July, the HFRI Fund Weighted Composite Index gained 1.7% as markets shrugged off June's
  Brexit vote and managers captured upside beta. July marked the index's fifth consecutive month
  of positive performance, its longest positive streak since 2013. Fund of Funds gained 1.3% but still
  remain down 1.4% year-to-date.
- Headline HFR Equity (+2.4%) and Event Driven Strategies (+2.1%) led hedge fund performance for the month. Strong global equity and credit markets were led by US, German, Japanese, and Spanish markets, but some managers underperformed because of derisked portfolios in the wake of "Brexit" at the end of June.
- Global Macro and Systematic Macro extended June's strong gains with a +0.8% and +1.2% July
  performance, respectively. Discretionary managers were generally correctly positioned for the
  flattening of global fixed income curves as well as the rally in precious metals while systematic
  global macro strategies also capitalized on equity upside and energy downside.
- Credit (+1.6%) and Distressed (+2.6%) funds had a strong month in July thanks to a broad-based rally in credit led by the telecom and metals and mining sectors. High yield bonds and loans finished the month up 2.3% and 1.4%, respectively.
- Relative Value (+1.4%) strategies also advanced for the period as managers generated gains in longer-dated developed market sovereign bond trading as well as capitalized on the normalization of certain relative value pricing relationships that dislocated following the Brexit referendum vote.

Source - Cliffwater



#### Twelve Month Compounded Performance as at July 2016





## Data as at July 2016 Natural Resources Overview



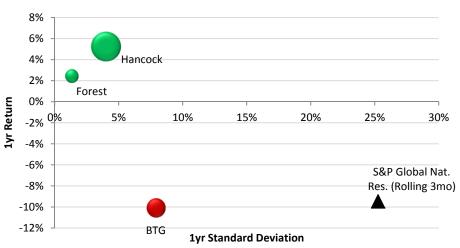
Dallas Police & Fire Pension System

#### Commentary

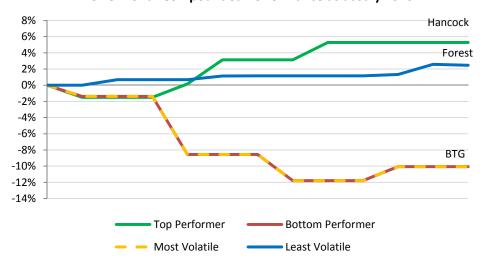
- Commodities declined in July, despite an improved global economic outlook that would typically
  be favorable for an array of goods and materials. The decline was partially attributable to
  producers responding to the recent market strength causing a slowdown in production cuts. A
  stronger U.S. dollar also played a role.
- Better-than-expected U.S. housing and manufacturing data throughout the month raised
  expectations that the Federal Reserve would hike interest rates later this year, a prospect that
  helped to carry the U.S. dollar to five-month highs. With global trade frequently conducted in U.S.
  dollars, the currency's move exerted pricing pressure on a range of commodities. However, by
  month's end, the U.S. Dollar Index surrendered its gains following a sharp downward revision to
  estimated second-quarter U.S. gross domestic product (GDP) growth, which further pressured
  commodities.
- Energy was the primary focus of attention in commodity trading during the month. West Texas Intermediate (–15.1% total return in the index) and Brent Crude oil futures (–13.6%) were weighed down as OPEC production reached a new high and as previously curtailed supply, most notably from Canada, resumed. Concurrently, demand for oil came in weaker than expected as refinery utilization dipped below its five-year average amid ample supplies of gasoline, diesel and aviation fuel. Natural gas (–1.4%) outperformed the petroleum complex, with warmer-thannormal weather bolstering demand from electric utilities. As gas production moderated, the surplus in U.S. storage levels narrowed relative to its fiveyear average to 20.6%.

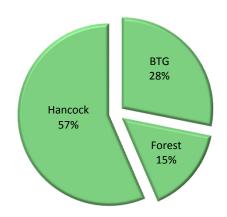
Source - Cohen & Steers

#### Manager Risk vs Return (Sharpe) as at July 2016



#### Twelve Month Compounded Performance as at July 2016





## Data as at July 2016 Infrastructure Overview

15%

10%

5%

0%

-5%

-10%

-15%

-20%

-25%

-30%

-35%

0%

5%

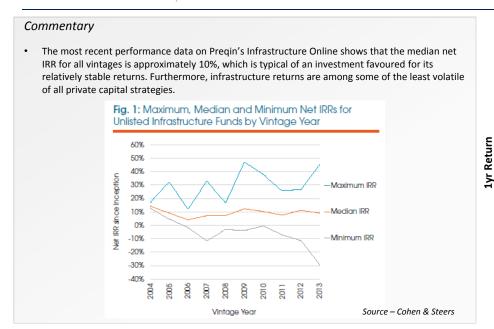
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JPM Maritime

25%

20%

Dallas Police & Fire Pension System

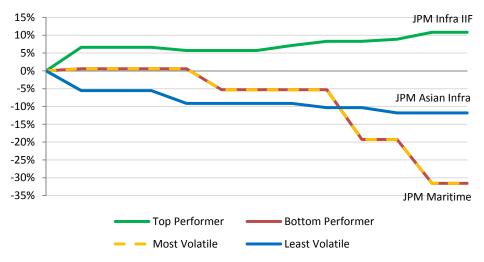


# Manager Risk vs Return (Sharpe) as at July 2016 JPM Infra. IIF S&P Global Infra (Rolling 3mo) JPM Asian Infra JPM Asian Infra II

**1yr Standard Deviation** 

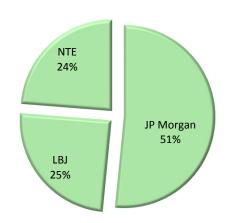
15%

## Twelve Month Compounded Performance as at July 2016



## **Exposure by Manager as at July 2016**

10%



## Data as at July 2016 **Real Estate Overview**

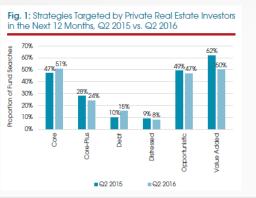
Source - Pregin

Dallas Police & Fire Pension System

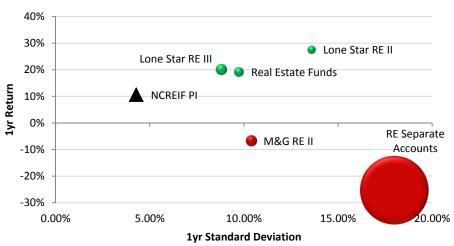
#### Commentary

• The majority (51%) of private real estate investors seeking new commitments will target core funds over the next 12 months, while the proportion targeting value added vehicles has declined by twelve percentage points since Q2 2015. This perhaps suggests that investors, concerned about the medium-term prospects for real estate, are being more conservative in their approaches. Despite this, higher risk strategies are still sought after, with investors displaying a relatively similar preference for investing in core, value added and opportunistic vehicles in the

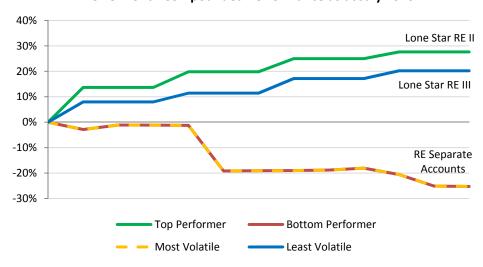
next 12 months.

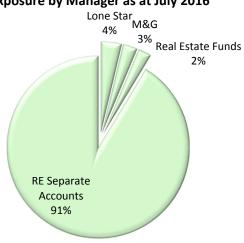


## Manager Risk vs Return (Sharpe) as at July 2016



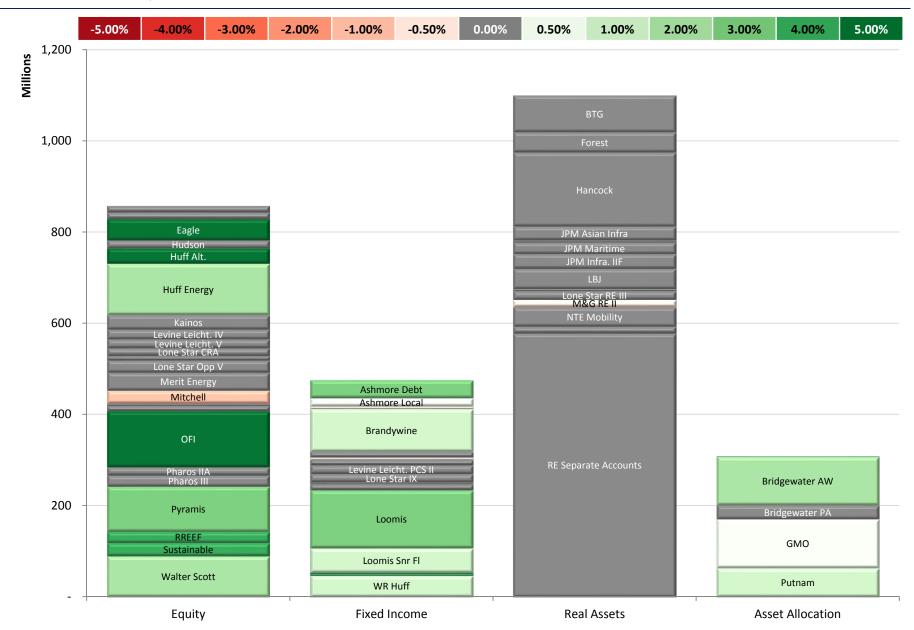
#### Twelve Month Compounded Performance as at July 2016





## Data as at July 2016 One Month Performance Heat Map

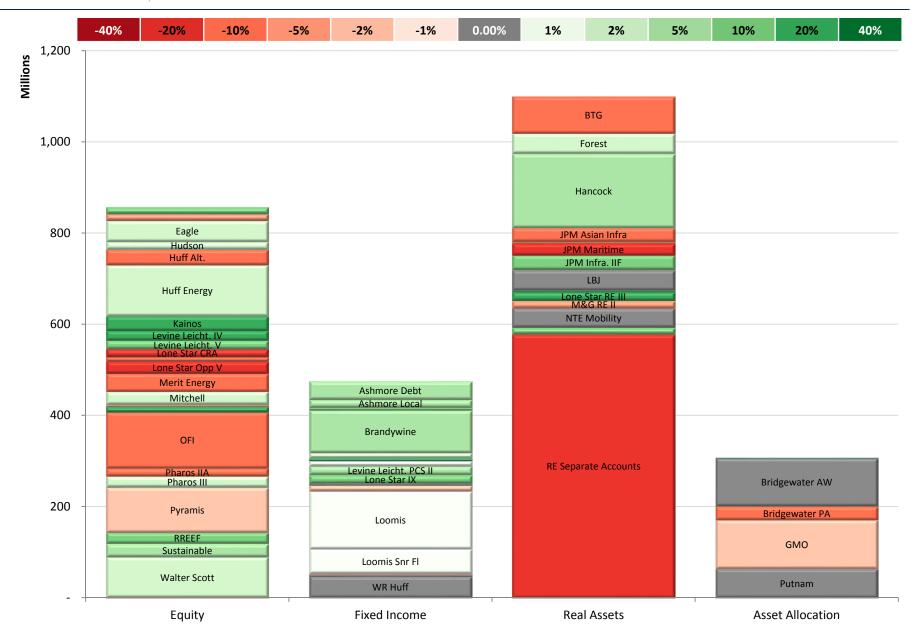
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<sup>\*</sup>Private assets only report on a quarterly basis therefore the one month return is often unchanged.

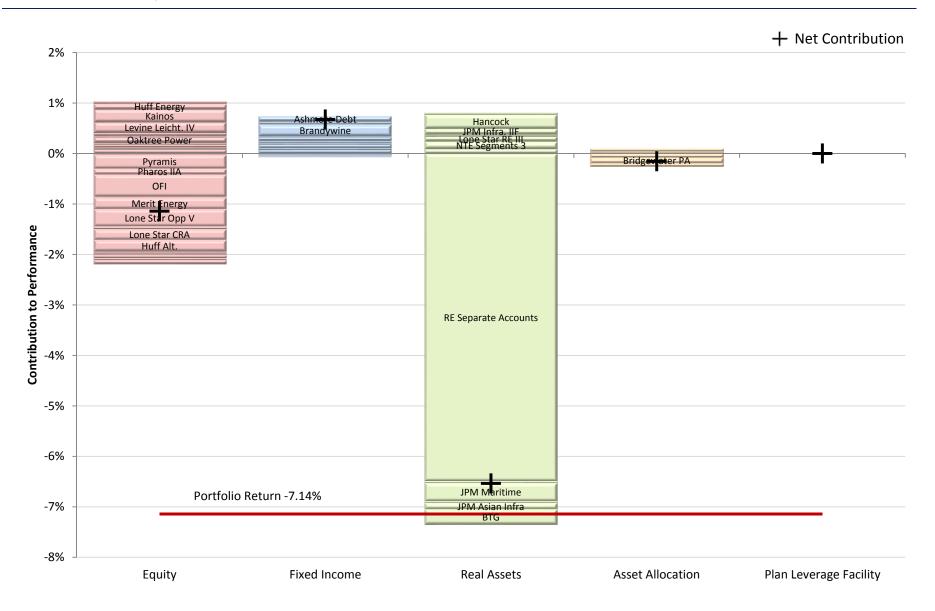
## Data as at July 2016 Twelve Month Performance Heat Map

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## Data as at July 2016 Twelve Month Contribution to Performance

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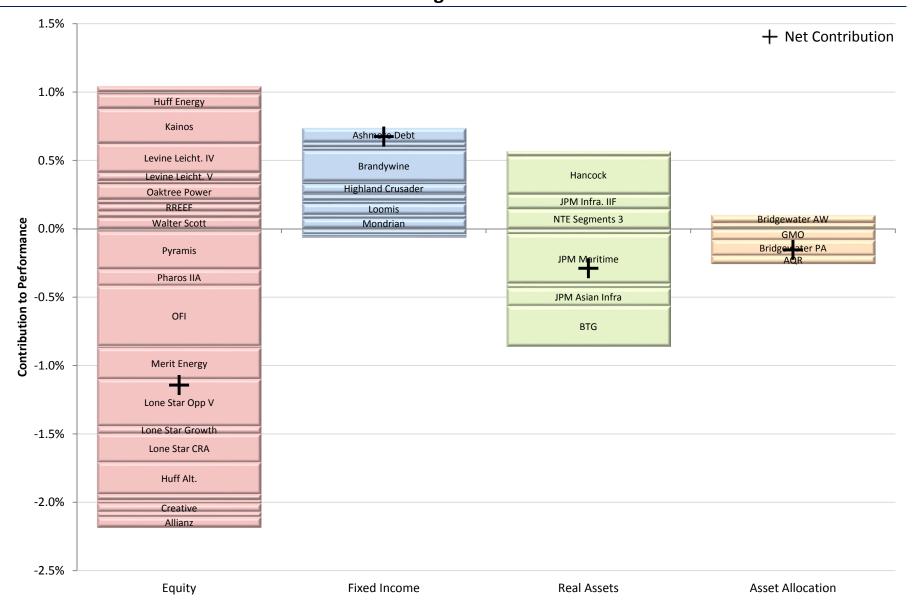


<sup>\*</sup> Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.

## Data as at July 2016

## Twelve Month Contribution to Performance excluding Real Estate

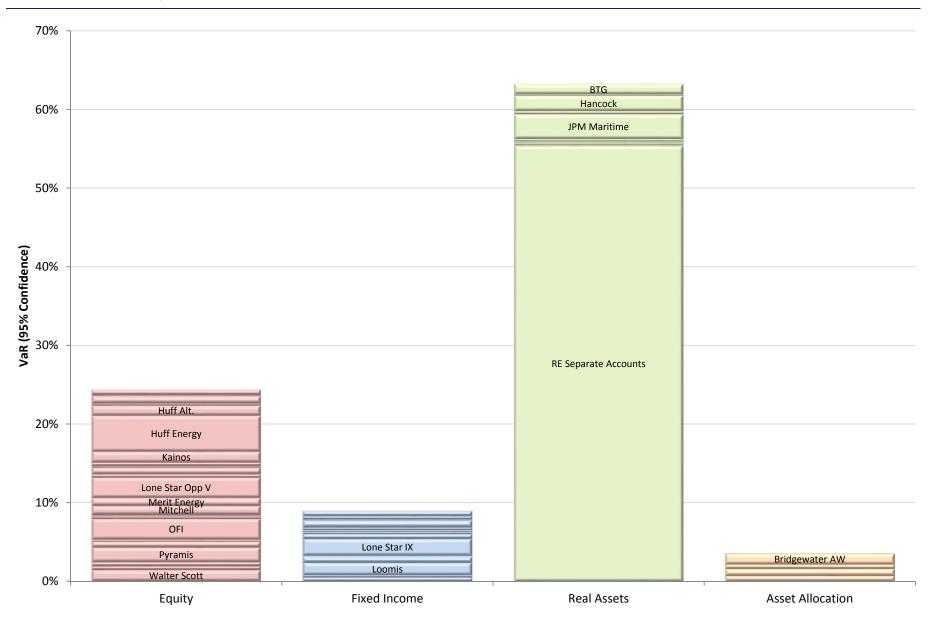




<sup>\*</sup> Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.

## Data as at July 2016 Five Year Contribution to Risk

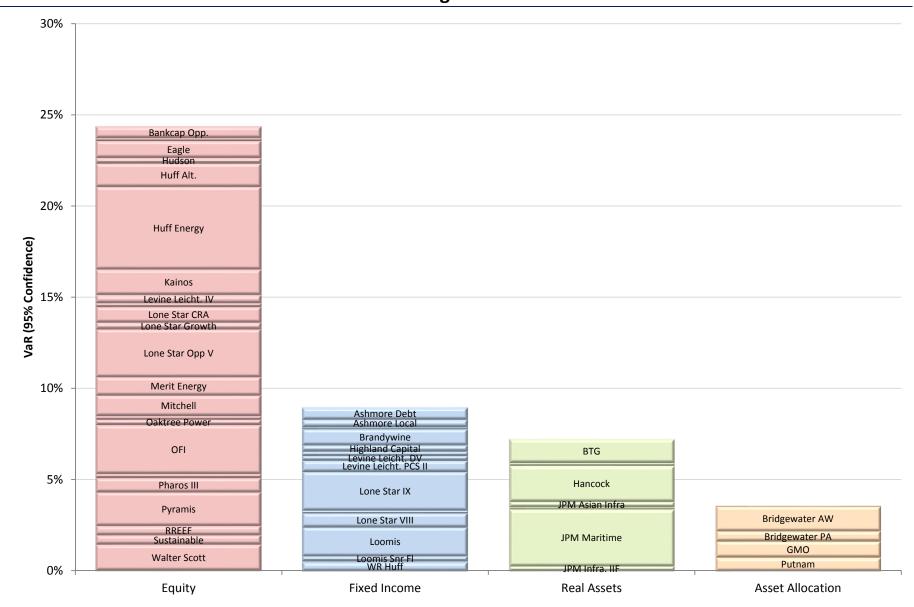
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<sup>\*</sup> VaR is expressed, on a position basis, as a percentage of the total portfolio VaR.

# Data as at July 2016 Five Year Contribution to Risk excluding Real Estate

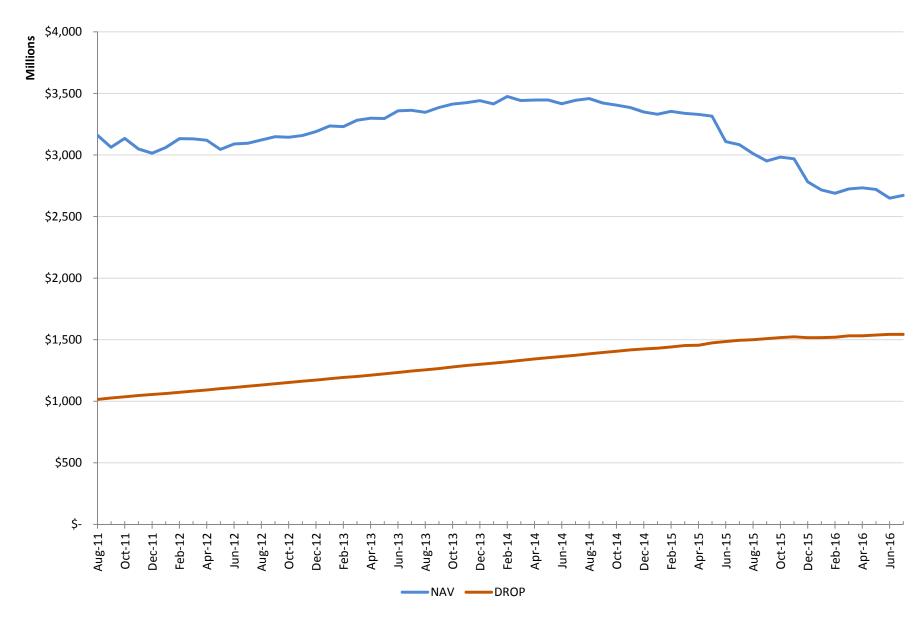




<sup>\*</sup> VaR is expressed, on a position basis, as a percentage of the total portfolio VaR.

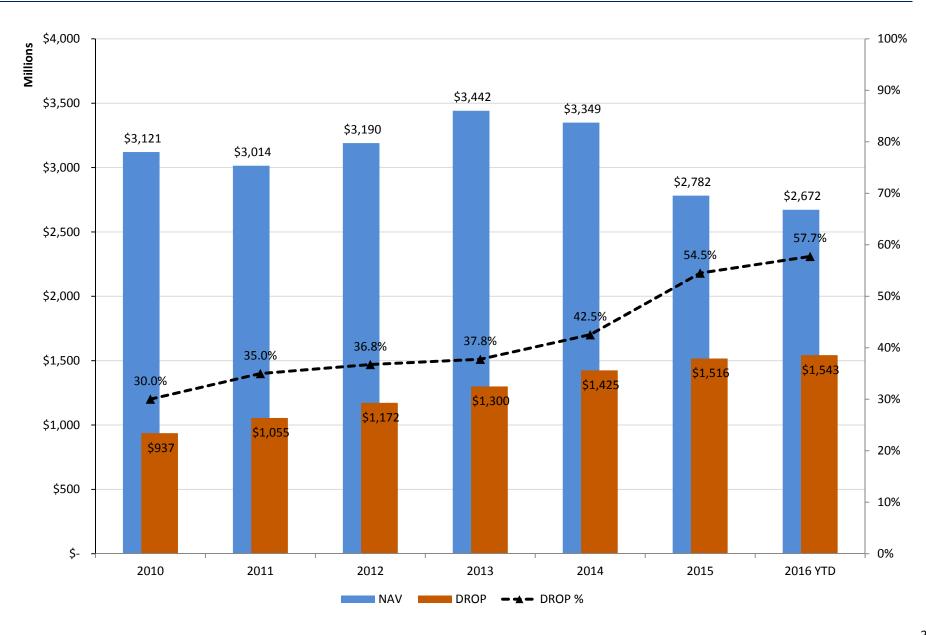
## Data as at July 2016 Monthly NAV & Drop Balances





## Data as at July 2016 DROP as % of NAV





## Data as at July 2016 Manager Overview



Fund	Inception Date	Current Exposure	Net Allocation (%)	1M	3M	YTD	1yr	2yr	3yr	5yr
Portfolio	Jun 1996	\$ 2,671,978,762		1.35%	-0.73%	0.68%	-7.14%	-7.13%	-3.12%	0.21%
Plan Leverage Facility	Mar 2014	\$ (150,000,000)		0.00%	0.00%	0.00%	0.00%	0.88%	n/a	n/a
EQUITY		\$ 857,013,616	32.07%	2.81%	0.78%	1.33%	-2.99%	-2.40%	-0.34%	2.97%
Global Equity	Jul 2006	\$ 439,316,462	16.44%	4.22%	3.96%	5.13%	-0.98%	1.05%	5.30%	6.30%
MSCI ACWI				4.31%	3.81%	5.59%	-0.44%	1.18%	5.87%	6.62%
Eagle Asset Management	Feb 2005	\$ 46,146,209	1.73%	5.53%	10.17%	10.57%	3.08%	9.47%	9.55%	10.60%
Mitchell Group	Oct 2001	\$ 28,747,087	1.08%	-1.45%	0.05%	19.89%	2.30%	-17.60%	-5.97%	-3.43%
OFI Global Institutional	Oct 2007	\$ 122,714,667	4.59%	6.48%	1.67%	-2.85%	-10.14%	1.10%	5.31%	7.65%
Pyramis (Fidelity)	Mar 2002	\$ 98,931,553	3.70%	3.69%	2.94%	3.38%	-3.18%	1.37%	6.16%	7.15%
RREEF	Feb 1999	\$ 24,714,340	0.92%	4.84%	8.95%	14.21%	12.70%	8.09%	9.72%	8.97%
Sustainable Asset Management	Nov 2008	\$ 28,814,016	1.08%	4.16%	5.93%	12.65%	9.67%	5.46%	10.25%	9.74%
Walter Scott	Dec 2009	\$ 89,248,590	3.34%	2.92%	4.41%	7.55%	4.31%	4.54%	7.01%	8.25%
Private Equity	Oct 2005	\$ 417,697,155	15.63%	1.37%	-2.41%	-2.44%	-3.64%	-6.15%	-7.57%	-1.27%
Russell 3000 + 3% (Rolling 3mo)				0.00%	2.85%	4.05%	3.04%	5.70%	12.21%	12.63%
BankCap Opportunity Fund	Aug 2013	\$ 14,650,027	0.55%	0.00%	-1.28%	12.51%	10.33%	-1.77%	-19.80%	n/a
BankCap Partners	Feb 2007	\$ 14,642,715	0.55%	0.00%	-5.40%	-6.58%	-7.26%	-4.27%	-1.26%	-1.15%
Hudson Clean Energy	Aug 2009	\$ 17,669,588	0.66%	0.00%	-1.59%	-1.71%	2.26%	-0.68%	-2.09%	-6.36%
Huff Alternative Fund	Jun 2001	\$ 33,535,303	1.26%	10.35%	10.35%	10.35%	-17.94%	2.95%	1.97%	-5.96%
Huff Energy Fund LP	Dec 2005	\$ 112,461,132	4.21%	2.12%	2.12%	2.12%	2.94%	-12.16%	-17.78%	-7.26%
Industry Ventures Partnership Holdings IV, LP	Jul 2016	\$ 200,000	0.01%	0.00%	n/a	n/a	n/a	n/a	n/a	n/a
Kainos Capital Partners	Jan 2014	\$ 31,549,153	1.18%	0.00%	7.50%	15.75%	33.41%	27.49%	n/a	n/a
Levine Leichtman Capital Partners IV	Apr 2008	\$ 21,467,704	0.80%	0.19%	2.14%	13.57%	29.73%	12.91%	11.05%	17.96%
Levine Leichtman Capital Partners V	Aug 2013	\$ 19,359,257	0.72%	0.29%	1.87%	5.28%	11.96%	17.04%	10.14%	n/a
Lone Star CRA	Jul 2008	\$ 17,024,743	0.64%	0.00%	-39.42%	-39.42%	-37.72%	-37.72%	-21.35%	-5.36%
Lone Star Growth Capital	Dec 2006	\$ 9,882,945	0.37%	0.00%	-22.23%	-22.23%	-13.60%	-1.75%	-13.88%	1.12%
Lone Star Opportunities V	Jan 2012	\$ 26,622,011	1.00%	0.16%	-39.06%	-38.85%	-37.51%	-17.37%	-11.14%	n/a
Merit Energy E, F, G, H	Oct 2004	\$ 39,312,536	1.47%	0.00%	7.81%	-10.28%	-15.49%	-13.71%	-5.39%	0.50%
North Texas Opportunity Fund	Aug 2000	\$ 4,695,538	0.18%	0.00%	-6.96%	-6.96%	-7.24%	-29.87%	-14.24%	-13.40%
Oaktree Power Opportunities Fund III	Apr 2011	\$ 11,899,312	0.45%	0.23%	0.23%	12.12%	28.72%	14.19%	18.67%	8.16%
Pharos IIA	Aug 2005	\$ 18,075,621	0.68%	0.00%	-4.80%	-6.32%	-16.85%	-9.68%	-5.71%	1.29%
Pharos III	Dec 2012	\$ 24,138,491	0.90%	0.00%	6.82%	2.86%	3.42%	0.77%	-9.54%	n/a
Yellowstone Capital	Sep 2008	\$ 511,079	0.02%	-0.05%	-0.05%	-15.90%	-55.48%	-45.46%	-45.61%	-34.66%
Cash & Cash Equivalents	20P 2000	\$ 83,274,628	3.12%	0.08%	0.19%	0.96%	0.99%	0.58%	0.36%	-0.69%

## Data as at July 2016 Manager Overview (cont.)



Fund	Inception Date	Current Exposure	Net Allocation (%)	1M	3M	YTD	1yr	2yr	3yr	5yr
FIXED INCOME	Jul 2006	\$ 474,678,344	17.77%	1.82%	3.04%	9.51%	3.98%	0.60%	2.60%	3.33%
Bank Loans		\$ 53,878,976	2.02%	1.96%	3.79%	7.26%	1.41%	2.00%	n/a	n/a
S&P Leveraged Loan Index				1.64%	2.10%	7.09%	2.71%	1.44%	2.29%	3.77%
Loomis Sayles Sr. Floating Rate	Jan 2014	\$ 53,878,976	2.02%	1.96%	3.79%	7.26%	1.41%	2.00%	n/a	n/a
EM Debt		\$ 57,694,594	2.16%	2.76%	4.44%	9.80%	6.60%	-1.23%	1.46%	1.29%
JPM EMBI + JPM GBI-EM				1.08%	2.78%	13.45%	8.22%	-0.42%	2.01%	1.99%
Ashmore EM Debt Fund	Feb 2005	\$ 39,536,989	1.48%	3.72%	5.59%	6.86%	6.48%	1.18%	3.93%	3.35%
Ashmore EM Local CCY	Mar 2011	\$ 18,157,606	0.68%	0.70%	0.95%	16.27%	6.01%	-6.68%	-3.80%	-2.99%
Global Bonds		\$ 93,899,335	3.51%	1.28%	1.77%	10.33%	7.70%	1.21%	2.60%	2.06%
Barclays Global Aggregate				0.75%	2.30%	9.78%	9.44%	1.41%	2.62%	1.50%
Brandywine	Oct 2004	\$ 93,897,528	3.51%	1.29%	0.92%	10.50%	6.07%	0.00%	2.29%	2.95%
Mondrian Investment Partners	Oct 2003	\$ 1,807	0.00%	-0.50%	-4.39%	1.46%	1.01%	-1.50%	0.18%	-0.50%
High Yield		\$ 173,868,099	6.51%	2.60%	5.45%	13.76%	1.55%	-1.69%	2.11%	4.12%
Barclays Global HY				2.70%	4.29%	12.01%	4.98%	2.64%	4.46%	6.16%
Loomis Sayles	Oct 1998	\$ 126,940,729	4.75%	3.15%	7.10%	15.11%	1.30%	-1.12%	3.28%	4.82%
W.R. Huff High Yield	Jun 1996	\$ 46,927,370	1.76%	1.13%	1.24%	9.70%	0.57%	-3.27%	-0.15%	2.59%
Private Debt		\$ 95,337,340	3.57%	0.32%	-0.14%	3.01%	5.68%	6.01%	4.50%	4.92%
Barclays Global HY + 2% (Rolling 3mo)				0.00%	6.03%	10.13%	3.65%	2.62%	6.26%	7.95%
Ashmore GSSF IV	Oct 2007	\$ 5,180,320	0.19%	-0.97%	-0.21%	20.01%	17.01%	4.23%	-3.56%	-8.70%
Highland Capital Management	Jan 2007	\$ 12,431,871	0.47%	0.00%	0.00%	0.00%	3.04%	-2.00%	4.33%	7.83%
Highland Crusader Fund	Jul 2003	\$ 5,090,089	0.19%	-0.55%	0.38%	30.27%	24.93%	6.34%	3.57%	17.33%
Levine Leichtman Capital Partners Deep Value	Oct 2006	\$ 11,829,110	0.44%	0.00%	2.53%	-1.95%	1.46%	14.37%	-0.43%	-0.80%
Levine Leichtman Capital Partners PCS II	Feb 2012	\$ 19,240,474	0.72%	0.29%	4.24%	6.49%	6.44%	-2.28%	3.22%	n/a
Lone Star Fund IX, LP	Apr 2015	\$ 18,389,433	0.69%	0.02%	-0.06%	1.71%	10.58%	n/a	n/a	n/a
Lone Star Fund VII, LP	Jul 2011	\$ 3,794,343	0.14%	0.00%	-5.20%	-9.38%	-0.70%	17.06%	41.33%	39.96%
Lone Star Fund VIII, LP	Jun 2013	\$ 13,365,506	0.50%	0.00%	-8.44%	-8.80%	-2.17%	18.19%	15.66%	n/a
Oaktree Fund IV & 2x Loan Fund	Jan 2002	\$ 2,112,594	0.08%	7.14%	7.14%	-2.09%	-13.31%	-12.69%	-4.10%	-0.72%
Riverstone Credit Partners LP	Jun 2016	\$ 3,903,601	0.15%	4.39%	n/a	n/a	n/a	n/a	n/a	n/a
ASSET ALLOCATION	Jul 2007	\$ 307,710,295	11.52%	1.71%	3.85%	3.59%	-0.19%	-0.53%	3.92%	4.14%
GTAA		\$ 106,889,472	4.00%	0.63%	1.30%	0.83%	-2.00%	-1.67%	2.17%	2.64%
60% NDUEACWF / 40% Barc Global Agg				2.89%	3.24%	7.38%	3.69%	1.45%	4.71%	4.74%
GMO	Sep 2007	\$ 106,889,472	4.00%	0.63%	1.30%	0.83%	-2.00%	-1.67%	2.12%	4.02%
Risk Parity		\$ 170,347,775	6.38%	2.69%	6.38%	8.01%	2.60%	0.37%	5.14%	5.94%
60% NDUEACWF / 40% Barc Global Agg				2.89%	3.24%	7.38%	3.69%	1.45%	4.71%	4.74%
AQR	Oct 2013	\$ 927,465	0.03%	61.60%	67.01%	72.17%	59.25%	24.06%	n/a	n/a
Bridgewater All Weather	Sep 2007	\$ 106,108,600	3.97%	2.87%	7.75%	7.09%	0.98%	-0.48%	5.02%	6.11%
Putnam	Dec 2009	\$ 63,311,710	2.37%	1.84%	4.47%	3.55%	-0.18%	-1.16%	3.54%	3.62%
Absolute Return		\$ 30,473,047	1.14%	0.12%	-1.21%	-13.47%	-10.33%	-1.74%	5.43%	n/a
Bridgewater Pure Alpha		\$ 30,473,047	1.14%	0.12%	-1.21%	-13.47%	-10.33%	-1.74%	5.43%	n/a

## Data as at July 2016 Manager Overview (cont.)

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Fund	Inception Date	С	urrent Exposure	Net Allocation (%)	1M	3M	YTD	1yr	2yr	3yr	5yr
REAL ASSETS	Mar 2015	\$	1,099,301,878	41.14%	-0.12%	-4.55%	-4.07%	-14.92%	-13.92%	-8.75%	-4.09%
Natural Resources	Apr 2015	\$	287,426,174	10.76%	-0.02%	0.74%	0.90%	0.17%	6.35%	6.79%	6.94%
S&P Global Nat. Res. (Rolling 3mo)					0.00%	6.76%	16.49%	-9.47%	-13.89%	-3.54%	-6.70%
BTG Pactual Asset Management	Oct 2006	\$	80,905,128	3.03%	0.00%	1.95%	-1.65%	-10.06%	-6.29%	-5.74%	-6.52%
Forest Investment Associates	Jan 1992	\$	44,261,286	1.66%	-0.11%	1.29%	1.32%	2.47%	4.56%	5.27%	3.56%
Hancock Agricultural	Dec 2002	\$	162,259,760	6.07%	0.00%	0.00%	2.07%	5.27%	15.45%	15.79%	17.91%
Infrastructure	Jul 2012	\$	179,543,524	6.72%	0.00%	-0.24%	-2.51%	-3.88%	-3.36%	-0.48%	0.51%
S&P Global Infra (Rolling 3mo)					0.00%	4.99%	14.09%	3.71%	-0.82%	8.66%	6.16%
JP Morgan Asian Infrastructure	Aug 2008	\$	30,269,469	1.13%	0.00%	-1.66%	-2.95%	-11.82%	-5.17%	-4.04%	1.38%
JP Morgan Asian Infrastructure II	Mar 2014	\$	4,445,279	0.17%	0.00%	-4.25%	-8.50%	-18.89%	-6.03%	n/a	n/a
JP Morgan Global Maritime	Jun 2010	\$	25,630,816	0.96%	0.00%	-15.25%	-27.75%	-31.57%	-22.81%	2.67%	-79.47%
JP Morgan Infrastructure IIF	Oct 2007	\$	32,226,382	1.21%	0.00%	2.35%	4.84%	10.83%	1.94%	4.08%	4.89%
LBJ Infrastructure Group Holdings	Jun 2010	\$	44,346,035	1.66%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NTE Mobility Partners	Dec 2009	\$	42,625,545	1.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Real Estate	Mar 1985	\$	632,332,180	23.67%	-0.19%	-7.97%	-6.61%	-23.00%	-22.04%	-15.35%	-8.61%
NCREIF Property Index					0.00%	2.03%	4.29%	10.64%	11.80%	11.60%	11.51%
Lone Star RE II	Sep 2011	\$	4,376,773	0.16%	0.00%	2.12%	6.52%	27.64%	47.94%	39.24%	n/a
Lone Star RE III	May 2014	\$	19,079,713	0.71%	0.00%	2.60%	7.86%	20.19%	12.73%	n/a	n/a
M&G Real Estate Debt Fund II, LP	Dec 2013	\$	16,375,545	0.61%	-0.68%	-6.78%	-5.67%	-6.66%	-2.45%	n/a	n/a
RE Separate Accounts		\$	577,616,596	21.62%	-0.19%	-8.77%	-7.52%	-25.25%	-24.43%	-17.25%	-10.50%
Real Estate Funds	Jan 1999	\$	14,883,553	0.56%	0.01%	8.51%	8.26%	19.21%	8.44%	8.28%	6.13%

<sup>\* &</sup>quot;Real Estate Funds" includes LSF III – VI, LSREF, Hearthstone and Olympus funds.

## Data as at July 2016

## Appendix I – Stress Test Scenarios, Proxies, Policy Composition



Dallas Police & Fire Pension System

## Stress Test Scenarios

Scenario/Stress	<b>Calculation Period</b>	Description
Debt Ceiling Crisis & Downgrade (2011)	07/22/2011 - 08/08/2011	Debt ceiling crisis that led to USA credit downgrade. This stress scenario describes a 17-day period starting from 7/22/2011 when the market began to react to debt ceiling impasse. 8/8/2011 is the first business day after the downgrade announcement.
Equities Down 10%	Stress Test	Global market factors down 10%.
Equities Up 10%	Stress Test	Global market factors up 10%.
Equity Markets Rebound (2009)	03/04/2009 - 06/01/2009	Global equity markets rebound following 2008 drawdown.
EUR down 10% vs. USD	Stress Test	FX rate shift. EUR weakens 10% to USD.
EUR up 10% vs. USD	Stress Test	FX rate shift. EUR strengthens 10% to USD.
Greek Financial Crisis (2015)	06/22/2015 - 07/08/2015	Athens resistance via referendum and ultimately agreement to rush through long-resisted economic reforms, imposed by its creditors, in a bid to stay in the Eurozone
Lehman Default (2008)	09/15/2008 - 10/14/2008	Month immediately following default of Lehman Brothers in 2008.
Libya Oil Shock (2011)	02/14/2011 - 02/23/2011	Civil war in Libya breaks out on 02/15/2011, causing oil prices to surge.
Oil Prices Drop (2010)	05/03/2010 - 05/20/2010	The price of oil drops 20% due to concerns over how European countries would reduce budget deficits in the wake of the European economic crisis.
Russian Financial Crisis (2008)	08/07/2008 - 10/06/2008	War with Georgia and rapidly declining oil prices raise fears of an economic recession within the region.

## Stress Test Proxies

Sub-Asset Class	Proxy						
Global Equity	iShares MSCI ACWI ETF						
Private Equity	PowerShares Senior Loan Portfolio ETF						
Global Bonds	SPDR Barclays Capital High Yield Bond ETF						
High Yield	SPDR Barclays Capital High Yield Bond ETF						
Bank Loans	SPDR Blackstone GSO Senior Loan ETF						
EM Debt	WisdomTree Emerging Markets Local Debt Fund						
Private Debt	iShares Floating Rate Bond ETF						
Natural Resources	SPDR Barclays 1-3 Month T-Bill ETF						
Infrastructure	SPDR Barclays 1-3 Month T-Bill ETF						
Real Estate	iShares Mortgage Real Estate Capped ETF						
Risk Parity	iShares Russell 2000 ETF						
GTAA	iShares Russell 2000 ETF						
Cash & Cash Equivalents	iShares 20+ Year Treasury Bond ETF						

## **Policy Composition**

Asset Class	Asset Class Benchmark			
Global Equity	MSCI ACWI	20%		
EM Equity	MSCI EM Equity	5%		
Private Equity	Russell 3000 + 3% (Rolling 3mo)	5%		
Short-Term Core Bonds	Barclays UST 1-3 Year	2%		
Global Bonds	Barclays Global Aggregate	3%		
High Yield	Barclays Global HY	5%		
Bank Loans	S&P Leveraged Loan Index	6%		
Struc. Cred. & Abs. Ret.	50% HFRI FV FI ABS/50% HFRI FV FI Corp	6%		
EM Debt	JPM EMBI + JPM GBI-EM	6%		
Private Debt	Barclays Global HY + 2% (Rolling 3mo)	5%		
Natural Resources	S&P Global Nat. Res. (Rolling 3mo)	5%		
Infrastructure	S&P Global Infra (Rolling 3mo)	5%		
Real Estate	NCREIF Property Index	12%		
Liquid Real Assets	CPI + 5%	3%		
Risk Parity	60% NDUEACWF / 40% Barc Global Agg	5%		
GTAA	60% NDUEACWF / 40% Barc Global Agg	3%		
Absolute Return	HFRX Abs Ret	2%		
Cash & Cash Equivalents	90 Day T-Bill	2%		

<sup>\*60/40</sup> Portfolio is defined as 60% MSCI ACWI, 40% Barclays Global Aggregate.

<sup>\*</sup>Proxies for stress tests are chosen based on correlation analysis of portfolio returns to tradeable ETFs.

## Data as at July 2016 Appendix II – Attribution Methodology



Dallas Police & Fire Pension System

#### **Attribution details**

Single period attribution uses arithmetic attribution per the Brinson Model

Asset Allocation = 
$$\sum_{j} (w_j^p - w_j^b) \times (r_j^b - r_{total}^b)$$

Stock Selection = 
$$\sum_{j} w_{j}^{b} \times (r_{j}^{p} - r_{j}^{b})$$

Interaction = 
$$\sum_{j} (w_{j}^{p} - w_{j}^{b}) \times (r_{j}^{p} - r_{j}^{b})$$

$$Total\ Value\ Added = \left(r_{total}^p - r_{total}^b\right)$$

where

 $w_i^p = Weight of Portfolio component j$ 

 $w_i^b = Weight of Benchmark component j$ 

 $r_{j}^{\hat{p}} = Return \ of \ Portfolio \ component \ j$ 

 $r_j^b = Return \ of \ Benchmark \ component \ j$ 

 $r_{total}^p = Total \ Return \ of Portfolio$  $r_{total}^b = Total \ Return \ of \ Benchmark$ 

Multi period attribution is calculated using the Frongello model to produce the cumulative effects of attribution across multiple periods.

$$F_{itb} = G_{itb} \left( \prod_{j=1}^{t-1} (1 + R_j) \right) + \bar{R}_t \left( \sum_{j=1}^{t-1} F_{ijb} \right)$$

In the Frongello method, each original attribute ( $G_{itb}$ ) is scaled by the portfolio total return through the prior period (1+R<sub>i</sub>) and the current period return of the benchmark ( $\overline{R_t}$ ) compounds with the total return due to that attribute through the prior period (Fiih)

<sup>\*</sup> For the one month attribution, the weights displayed on page 13 are the beginning weights for the period. For the Calendar YTD and One Year weights, they are the average of the beginning weights over the period

## Data as at July 2016 Appendix III – Investment Terms & Performance Statistics



Dallas Police & Fire Pension System

Active Premium: A measure of the investment's annualized return minus the benchmark's annualized return

Alpha: Return generated by the manager that is not explained by the returns of the benchmark. A measure of a fund's performance beyond what its benchmark would predict

Annual Return: The annual rate at which an investment would have grown, if it had grown at a steady rate. Also called "Compound Annual Growth Rate" (CAGR), or the "Compound Rate of Return Annualized" (Compound RoR)

Annual Volatility: A statistical measure of the dispersion of returns around the average (mean) return. Often used as a measure of investment risk with a higher value indicating higher risk

Arbitrage: The simultaneous purchase and sale of an asset in order to profit from a difference in the price

Beta: A measure of the risk of the fund relative to the benchmark. Beta describes the sensitivity of the investment to benchmark movements where the benchmark is always assigned a beta of 1.0

Calmar Ratio: A return/risk ratio calculated over the last three year period as [annual compounded return / (Maximum Drawdown)]

Capital Commitment: Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time.

Capital Distribution: The returns that an investor in a private equity fund receives; the income and capital realized from investments less expenses and liabilities

Carried Interest: The share of profits that the fund manager is due once it has returned the cost of investment to investors

<u>Catch up:</u> A clause that allows the general partner to take, for a limited period of time, a greater share of the carried interest than would normally be allowed. This continues until the time when the carried interest allocation, as agreed in the limited partnership, has been reached.

<u>Clawback:</u> Ensures that a general partner does not receive more than its agreed percentage of carried interest over the life of the fund

Correlation: A measure between +1 and -1 that explains the degree to which the returns of the fund and a benchmark are related

Down Capture: Measures how much of the benchmark's return the fund captures when the benchmark is negative

Down Number: The percentage of the time the fund was down when the benchmark was down

<u>Drawdown:</u> When a private equity firm has decided where it would like to invest, it will approach its own investors in order to draw down the money. The money will already have been pledged to the fund but this is the actual act of transferring the money so that it reaches the investment target

Excess Kurtosis: Measures the distribution of observed data around the mean with an emphasis on "outlier" data, both positive and negative

Exit: The means by which a fund is able to realize its investment in a company – by an initial public offering, a trade sale, selling to another private equity firm or a company buy-back

Fundraising: The process by which a private equity firm solicits financial commitments from limited partners for a fund

# Data as at July 2016 Appendix III – Investment Terms & Performance Statistics (cont.)



Dallas Police & Fire Pension System

General Partner: This can refer to the top-ranking partner(s) at a private equity firm as well as the firm managing the private equity fund

Gross Exposure: Aggregate of long and short investment positions in relation to the Net Asset Value (NAV)

Holding Period: The length of time that an investment is held

Information Ratio: The Active Premium divided by the Tracking Error. This measure explicitly relates the degree by which an investment has beaten the benchmark to the consistency by which the investment has beaten the benchmark

Internal Rate of Return: A time-weighted return expressed as a percentage that uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount

Leverage: Increasing exposure to markets (both long and short) by borrowing or the use of derivatives

<u>Limited Partnership:</u> The standard vehicle for investment in private equity funds

**Long Position**: Owning a security

Management Fee: The annual fee paid to the general partner

Max Drawdown: The largest percentage loss of Net Asset Value (NAV) as measured from peak-to-trough

Net Exposure: Difference between the long and short positions, representing the exposure to market fluctuations

<u>Preferred Return:</u> This is the minimum amount of return that is distributed to the limited partners until the time when the general partner is eligible to deduct carried interest

Omega Ratio: The weighted gain/loss ratio relative to the average monthly historical return; captures the effects of extreme returns and conveys the preference for positive volatility versus negative volatility

Sharpe Ratio: A return/risk ratio calculated as: [(annual compounded return - risk-free rate) / (annual volatility of returns)]

Skewness: A measure of the symmetry of return distribution, as compared with a normal (bell-shaped) distribution

Sortino Ratio: A return/risk ratio calculated as such: [(annual compounded return – minimum acceptable return (MAR) / (downside deviation of returns below MAR)]. This ratio was developed to differentiate between good (upside) and bad (downside) volatility

Standard Deviation: Measures the dispersal or uncertainty in a random variable (in this case, investment returns). It measures the degree of variation of returns around the mean (average) return

Short Position: Selling a security

Tracking Error: A measure of the unexplained portion of an investments performance relative to a benchmark

# Data as at July 2016 Appendix III – Investment Terms & Performance Statistics (cont.)



Dallas Police & Fire Pension System

<u>Up Capture</u>: Measures the percentage of the benchmark's return the fund captures when the benchmark is positive

<u>Up Number:</u> The percentage of the time the fund was up when the benchmark was up

Value at Risk (VAR): The maximum loss that can be expected within a specified holding period with a specified confidence level

## Data as at July 2016 Appendix IV – Investment IRRs



Holding	Inception	IRR	End NAV	9	Subscriptions	Redemptions	N	let Cashflows
Equity								
Eagle Asset Management	02/01/2005	7.98% \$	46,146,209	\$	125,347,734	\$ 184,800,000	\$	59,452,266
Mitchell Group	10/01/2001	12.83% \$	28,747,087	\$	21,277,945	\$ 38,450,000	\$	17,172,055
OFI Global Institutional	10/01/2007	4.82% \$	122,714,667	\$	126,463,387	\$ 50,500,000	\$	(75,963,387)
Pyramis (Fidelity)	03/01/2002	9.13%\$	98,931,553	\$	313,821,030	\$ 435,200,000	\$	121,378,970
RREEF	02/01/1999	8.78% \$	24,714,340	\$	28,277,404	\$ 59,917,403	\$	31,639,999
Sustainable Asset Management	11/01/2008	11.41%\$	28,814,016	\$	25,000,000	\$ 24,500,000	\$	(500,000)
Walter Scott	12/01/2009	11.79%\$	89,248,590	\$	101,587,415	\$ 91,500,000	\$	(10,087,415)
Fixed Income								
Ashmore EM Debt Fund	02/01/2005	9.45% \$	39,536,989	\$	50,000,000	\$ 65,443,437	\$	15,443,437
Ashmore EM Local CCY	03/01/2011	-1.09% \$	18,157,606	\$	25,000,000	\$ 5,588,313	\$	(19,411,687)
Brandywine	10/01/2004	5.08% \$	93,897,528	\$	212,613,712	\$ 172,282,935	\$	(40,330,777)
Loomis Sayles	10/01/1998	8.88% \$	126,940,729	\$	194,861,505	\$ 321,499,146	\$	117,017,062
Loomis Sayles Sr. Floating Rate	01/01/2014	2.83% \$	53,878,976	\$	50,000,000	\$ 849	\$	(49,999,151)
W.R. Huff High Yield	06/01/1996	4.91%\$	46,927,370	\$	101,585,758	\$ 145,783,939	\$	44,198,181
Asset Allocation								
Bridgewater	09/01/2007	5.54% \$	136,581,647	\$	94,175,000	\$ 100	\$	(94,174,900)
GMO	09/01/2007	3.46% \$	106,889,472	\$	100,000,000	\$ 20,000,915	\$	(79,999,085)
Putnam	12/01/2009	4.69%\$	63,311,710	\$	50,000,000	\$ -	\$	(50,000,000)



## ITEM #C7

**Topic:** Possible Plan amendments

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.071 of the Texas Government Code.

**a.** Discussion of, and possible action on, Plan amendments

**b.** Tax Qualification Plan amendments

c. Discussion of next steps

**Attendees:** Rocky Joyner, Segal

Jeff Williams, Segal

**Discussion:** Segal Consulting will be present to review the results of the additional analysis requested by

the Board during the August 18, 2016 Special meeting. The Board will continue discussion of

possible Plan amendments.



## ITEM #C8

**Topic:** Ad hoc committee reports

**Discussion:** An update on the ad hoc committees will be provided.



## ITEM #C8

**Topic:** Ad hoc committee reports

**Discussion:** An update on the ad hoc committees will be provided.



## ITEM #C9

Topic: 2016 Board/staff workshop

**Discussion:** Staff will discuss the workshop plans with the Board.



## ITEM #D1

Topic: Reports and concerns of active members and pensioners of the Dallas Police and Fire

**Pension System** 

**Discussion:** This is a Board-approved open forum for active members and pensioners to address their

concerns to the Board and staff.



## ITEM #D2

**Topic:** Executive Director's report

**a.** Future Education and Business Related Travel

**b.** Future Investment Related Travel

**Discussion:** The Executive Director will brief the Board regarding the attached information.

## Future Education and Business Related Travel Regular Board Meeting – September 8, 2016

1. Conference: PRB Actuarial Committee Meeting

**Dates:** September 15, 2016

**Location:** Austin, TX

2. Conference: Society of Pension Professionals

**Dates:** September 20, 2016

**Location:** Dallas, TX

**Est. Cost:** \$250.00 Per Person Annually

3. Conference: Pensions Committee Hearing

Dates: September 29, 2016

**Location:** Dallas, TX

Regular Board Meeting October 13, 2016

Board and Staff Workshop October 17-19, 2016

4. Conference: NCPERS Accredited Fiduciary Program Modules 3 & 4 (PRB rules for MET)

**Dates:** October 22-23, 2016

**Location:** Las Vegas, NV

**Est. Cost:** \$700

5. Conference: NCPERS Public Safety Conference

**Dates:** October 23-26, 2016

**Location:** Las Vegas, NV

**Est. Cost:** \$1,700

6. Conference: Global ARC Annual Conference

**Dates:** October 24-26, 2016

**Location:** Boston, MA

**Est. Cost:** \$1,775

7. Conference: Society of Pension Professional Annual Summit

**Dates:** October 31, 2016

**Location:** Irving, TX

Est. Cost: TBD

**8. Conference: TEXPERS Basic Trustee Training Class (PRB rules for MET)** 

**Dates:** November 1, 2016

**Location:** Irving, TX

**Est. Cost:** \$100

9. Conference: Opal: Emerging Managers Summit South

**Dates:** November 7-8, 2016

**Location:** Austin, TX **Est. Cost:** \$1,000

Regular Board Meeting November 10, 2016

10. Conference: IFEBP: Annual Benefits Conference

**Dates:** November 13-16, 2016

**Location:** Orlando, FL

**Est. Cost:** \$3,200

## Regular Board Meeting December 8, 2016

11. Conference: Society of Pension Professionals

Dates: December 20, 2016

**Location:** Dallas, TX

**Est. Cost:** \$250.00 Per Person Annually

12. Conference: PRB: MET Online Core Training: Benefits Administration

**Dates:** Anytime on line

**Location:** <a href="http://www.prb.state.tx.us/">http://www.prb.state.tx.us/</a>

13. Conference: PRB: MET Online Core Training: Risk Management

**Dates:** Anytime on line

**Location:** <a href="http://www.prb.state.tx.us/">http://www.prb.state.tx.us/</a>

14. Conference: PRB: MET Online Core Training: Ethics

**Dates:** Anytime on line

**Location:** <a href="http://www.prb.state.tx.us/">http://www.prb.state.tx.us/</a>

15. Conference: Opal: Public Funds Summit

**Dates:** January 9-11, 2017 **Location:** Scottsdale, AZ

Est. Cost: TBD

## Future Investment Related Travel Regular Board Meeting – September 8, 2016

**NONE**