

AGENDA



Date: March 3, 2017

The regular meeting of the Dallas Police and Fire Pension System Board of Trustees will be held at **8:30 a.m. on Thursday, March 9, 2017, 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 February 9, 2017
- b. Special meeting of February 14, 2017
- c. Special meeting of February 20, 2017
- d. Special meeting of February 27, 2017

2. Approval of Refunds of Contributions for the Month of February 2017

- 3. Approval of Estate Settlements**
- 4. Approval of Survivor Benefits**
- 5. Approval of Service Retirements**
- 6. Approval of Alternate Payee Benefits**
- 7. Unforeseen Emergency Request Denials**

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

- 1. Certification of applications for Trustee for 2017 Trustee election ballot**
- 2. Discussion and possible action on Legislative Matters**
 - a. Status of DFPF plan legislation**
 - b. Other pension-related legislative issues**

3. Consideration of possible Deferred Retirement Option Plan (DROP) accounts distribution in accordance with DROP Policy Addendum

- a. Certification of reserve amount
- b. Certification of excess liquidity amount
- c. Determination of distribution amount

4. 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. 2016 Plan amendment litigation
- e. Rawlings v. Dallas Police and Fire Pension System
- f. DPFPP v. Columbus A. Alexander III
- g. Degan et al. v. DPFPP Board of Trustees (Federal suit)

5. NEPC

- a. Fourth Quarter 2016 Investment Performance Analysis
- b. Third Quarter 2016 Private Markets & Real Assets Review
- c. Current cash allocation

6. Possible sale of Sungate

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.

7. Investment reports

8. 2017 Budget adjustment – Insurance

9. CDK Multi-Family Fund

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.

10. Closed Session - Board serving as Medical Committee

Discussion of the following will be closed to the public under the terms of Section 551.078 of the Texas Government Code:

Disability recalls

11. Possible revisions to or repeal of certain Board policies

12. Ad hoc and permanent committee reports

- a.** Governance
- b.** Professional Services Committee

13. Business Continuity Review

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
- c.** Associations' newsletters
 - NCPERS Monitor (February 2017)
 - TEXPERS Pension Observer (Winter 2017)

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

(February 3, 2017 – March 1, 2017)

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
W.E. Rieves	Retired	Fire	Feb. 7, 2017
Jimmy D. Holt	Retired	Police	Feb. 11, 2017
Jack T. Swafford	Retired	Police	Feb. 12, 2017
L. A. Hiller	Retired	Fire	Feb. 15, 2017
Kenneth B. Wolfe	Retired	Police	Feb. 15, 2017
John E. Abernathy	Retired	Fire	Feb. 21, 2017
W.E. Montgomery	Retired	Fire	Feb. 21, 2017
W. F. Haygood	Retired	Fire	Feb. 22, 2017

Regular Board Meeting – Thursday, March 9, 2017

Dallas Police and Fire Pension System
Thursday, February 9, 2017
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 a.m. Samuel L. Friar, Kenneth S. Haben, Joseph P. Schutz, Brian Hass, Erik Wilson, Tho T. Ho, Gerald D. Brown, Clint Conway, Kenneth Sprecher

Present at 8:32 a.m. Jennifer S. Gates

Present at 8:46 a.m. Scott Griggs

Absent: Philip T. Kingston

Staff

Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Damion Hervey, Pat McGennis, Christina Wu, Greg Irlbeck, Linda Rickley

Others

Chuck Campbell, Jeff Williams, Rocky Joyner, Ron Pastore (by telephone), Larry Goldsmith, A. D. Donald, Paul Jarvis, Ron Weimer, Julian Bernal, Andy Acord, Marlin Price, Lloyd D. Brown, Larry Eddington, Thomas Payne, Stephen Walthall, Thomas D. Bowers, Jr., Tommy Ames, Phillip W. Brown, Joe Thompson, Gilbert Travis, Robert B. Baird, Raymond Bennett, Joel Lavender, David Slaughter, Jerry M. Rhodes, Jaysonn Mammeli, Frank Ruspoli, Mark Sittner, J. M. Dunn, Larry Williams, Tom Moore, Benjamin Irish, Dale Erves, Ernest Perez, W. R. Bricker, Dwayne K. Brown, Rick Salinas, Jack Clower, James D. Elliston, Roger Garcia, William Hunt, Cheryl Hunt, David Dodson, Michael Adamek, Robert Gage, Jerry Hejl, Tommy R. Buggs, John Hanes, Phillip Murray, Irving Butler, Charles Hale, George W. Bedford, Pete Bailey, Gary S. Beck, Sandy Alexander, Gary Sherman, Lori Brown, Wally Gurrera, Tim Ciesco, Tristan Hallman, Zaman Hemani, Steve Alexander, Barnard Woodruff, Jon Prior, Monica Hernandez, Bryan Titsworth, Ashleigh Barry, Lyle Davis, Tonya Eiserer, James Pultz, Courtney Gilmore, Charles Johnson, Andrea Rega, William Castro, Billy Bryant, Jack Fink, Manuel Villela

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

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**Regular Board Meeting
Thursday, February 9, 2017**

A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of retired firefighter Grady M. Hudgens.

No motion was made.

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B. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of January 12, 2017

2. Approval of Refunds of Contributions for the Month of January 2017

3. Approval of Activity in the Deferred Retirement Option Plan (DROP) for February 2017

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

After discussion, Mr. Brown made a motion to approve the items on the Consent Agenda, subject to the final approval of the staff. Mr. Haben seconded the motion, which was unanimously approved by the Board. Ms. Gates and Mr. Griggs were not present when the vote was taken.

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**Regular Board Meeting
Thursday, February 9, 2017**

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

1. Discussion and possible action on Legislative Matters

- a. City of Dallas plan, DFPF plan and status of negotiations
- b. Other pension-related legislative issues

Staff updated the Board on the status of the City's and DFPF's proposed plans at the legislature as well as status of the discussions between the City and DFPF. Jeff Williams and Rocky Joyner, representatives of Segal Consulting, DFPF's actuary, were present to comment on the actuarial impact of the proposals.

Staff briefed the Board on pension bills that have been filed which may bear on DFPF.

No motion was made.

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2. Legal issues

- a. Police Officer and Firefighter pay lawsuits
- b. Potential claims involving fiduciaries and advisors
- c. 2014 Plan amendment election and litigation
- d. CDK Realty Advisors LP v. Dallas Police and Fire Pension System
- e. 2016 Plan amendment litigation
- f. Rawlings v. Dallas Police and Fire Pension System
- g. DFPF v. Sandy Alexander
- h. Degan et al. v. DFPF Board of Trustees (Federal suit)

The Board went into closed executive session – legal at 10:01 a.m.

The meeting was reopened at 10:46 a.m.

The meeting was recessed at 10:46 a.m.

The meeting was reconvened at 10:51 a.m.

**Regular Board Meeting
Thursday, February 9, 2017**

2. Legal issues (continued)

After discussion, Mr. Griggs made a motion to seek an outside legal opinion regarding Haynes & Boone’s conflict of interest with respect to the Degan et al. v. DPFP Board of Trustees Federal lawsuit. Mr. Wilson seconded the motion, which failed by the following vote:

For: Griggs, Wilson, Gates

Against: Friar, Haben, Schutz, Hass, Ho, Brown, Conway, Sprecher

The Board directed staff to post a special Board meeting for Tuesday, February 14, 2017 to discuss legal issues regarding the Degan lawsuit and the Rawlings lawsuit.

After discussion, Mr. Conway made a motion to exclude the City Council Trustees from the closed session discussion of the Rawlings lawsuit. Mr. Hass seconded the motion, which was unanimously approved by the Board.

The Board went into a closed executive session – legal at 11:08 a.m. to discuss only the Rawlings lawsuit. The Council Trustees were excluded.

The meeting was reopened at 11:30 a.m.

No motion was made.

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3. RED Consolidated Holdings Capital Requirements

The Board went into closed executive session – legal at 11:53 a.m.

The meeting was reopened at 1:03 p.m.

No motion was made.

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**Regular Board Meeting
Thursday, February 9, 2017**

4. Amendment of Bank of America loan agreement

The Board went into closed executive session – legal at 11:30 a.m.

The meeting was reopened at 1:03 p.m.

After discussion, Mr. Brown made a motion to direct the Executive Director to continue negotiations with Bank of America on the interest rate and extension to May or after the current legislative session. Mr. Griggs seconded the motion, which was approved by the following vote:

For: Brown, Griggs, Friar, Haben, Schutz, Gates, Wilson, Sprecher

Against: Hass

Abstain: Conway, Ho

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5. Investment and financial reports

Staff reviewed the investment performance and rebalancing reports for the period ending January 31, 2017 with the Board.

Ms. Loveland presented the preliminary 2016 financial statements.

No motion was made.

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6. Possible technical change to unitization of Trust

Staff discussed the possible use of an alternative method for purposes of allocating the assets of the Trust between the Combined Pension Plan and the Supplemental Plan. J.P. Morgan, custodian of DFPF’s investment portfolio, has proposed the use of the “allocation” method as opposed to the current use of the “unitization” method. The “allocation” method is strictly based on dollar value, while the “unitization” method assigns a number of shares to each plan. The objective of the unitization of the Trust is to allocate the portfolio of assets and the related gains and losses pro-rata between the two plans. The results of the two methods do not differ and the proposed allocation method offers the ability for more transparent reporting from J.P. Morgan to staff on how the allocation is derived.

**Regular Board Meeting
Thursday, February 9, 2017**

6. Possible technical change to unitization of Trust (continued)

After discussion, Mr. Brown made a motion to approve the use of the allocation method of allocating assets between the Combined Pension Plan and the Supplemental Plan as soon as administratively feasible. Mr. Hass seconded the motion, which was unanimously approved by the Board.

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7. 2017 Budget adjustments

- a. Independent audit fees
- b. Mileage

Staff briefed the Board on a change to anticipated expenditures for independent audit fees in 2017 as compared to the budgeted amount. In addition, staff proposed a modification to the 2017 budget to include mileage expenses incurred by Trustees for local meetings related to pension business.

After discussion, Mr. Hass made a motion to approve the proposed increases in the budget for independent audit fees and mileage for 2017. Mr. Brown seconded the motion, which was unanimously approved by the Board.

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8. Employee recognition – Fourth Quarter 2016

- a. Employee of the Quarter Award
- b. The William G. Baldree Employee of the Year Award

Mr. Friar and Ms. Gottschalk presented the performance award for Employee of the Quarter, Fourth Quarter 2016, to Vickie Johnson, Accounting Specialist, and the William G. Baldree Employee of the Year Award for 2016 to Vickie Johnson, Accounting Specialist. The Employee of the Year is chosen from among the four Employee of the Quarter Award recipients for the year.

No motion was made.

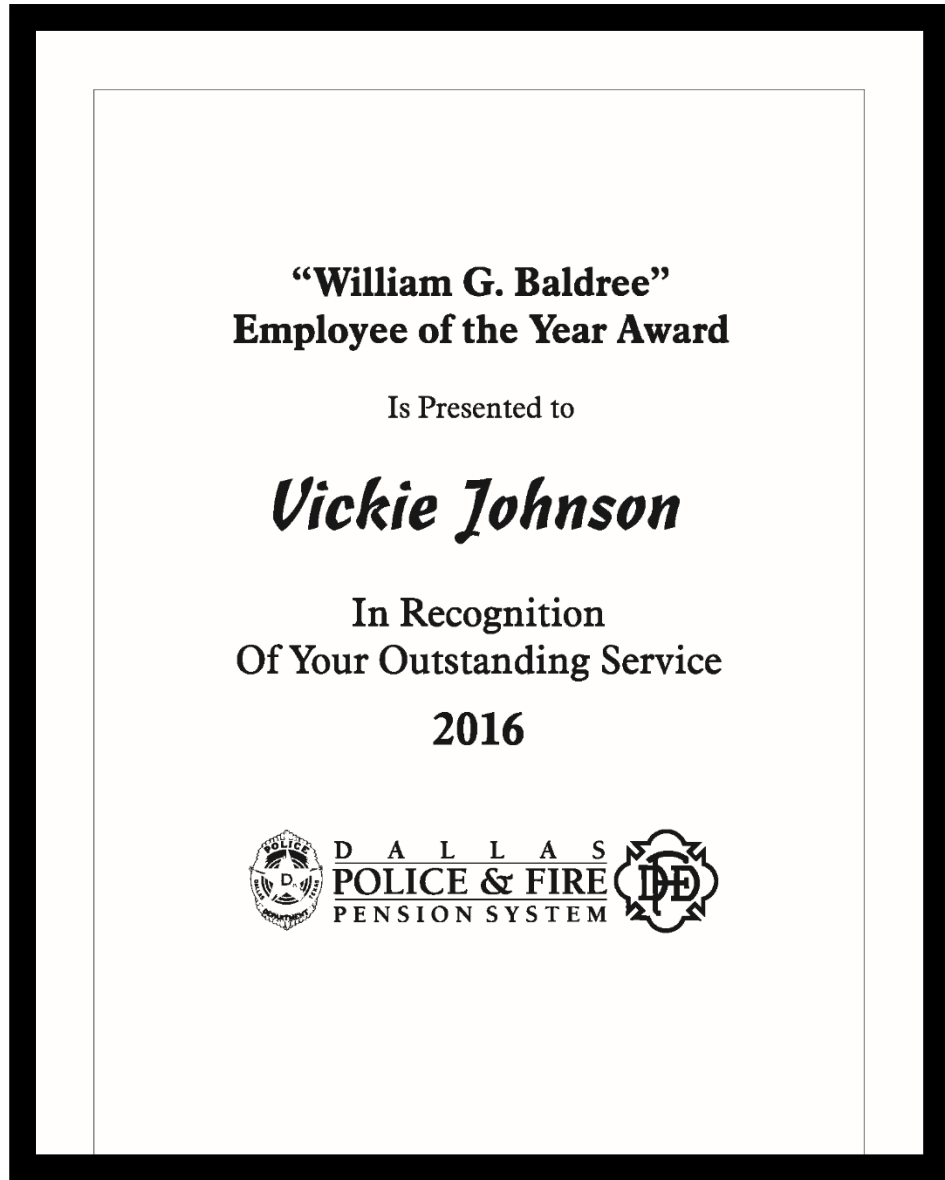
**Regular Board Meeting
Thursday, February 9, 2017**

8. Employee recognition – Fourth Quarter 2016 (continued)



**Regular Board Meeting
Thursday, February 9, 2017**

8. Employee recognition – Fourth Quarter 2016 (continued)



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**Regular Board Meeting
Thursday, February 9, 2017**

9. Possible revisions to or repeal of certain Board policies

The Board postponed discussion of Board policies until the March regular Board meeting.

No motion was made.

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10. Discussion of Investment Advisory Committee member appointment timing

Staff sought direction from the Board on how to proceed with the process to form the Investment Advisory Committee, given the uncertainty of the future Board structure under proposed legislation, the fact that DFPF is not currently making new investments and the role of NEPC serving as DFPF's investment consultant.

The Board directed staff to suspend the process to establish the Investment Advisory Committee until new legislation clarifies the Board composition.

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11. Ad hoc and permanent committee reports

- a. Governance
- b. Professional Services Committee

Mr. Haben, Chairman of the Professional Services Committee, reported to the Board on its meeting with the Actuary, Segal Consulting. The Governance Committee report was postponed to the March regular Board meeting.

No motion was made.

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

- a. PRB: MET Online Core Training: Fiduciary Matters
- b. Meeting with Legislators
- c. PRB meeting

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

**Regular Board Meeting
Thursday, February 9, 2017**

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

- a. PRB: MET Online Core Training: Fiduciary Matters

Mr. Sprecher

- b. Meeting with Legislators

Mr. Friar, Ms. Gottschalk, Mr. Mond

- c. PRB meeting

Messrs. Friar, Schutz, Ms. Gottschalk, Mr. Mond

No motion was made.

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13. Unforeseeable Emergency Requests from DROP Members

Ms. Gottschalk stated that in January, the Board adopted an addendum to the DROP Policy which includes a provision allowing for members to apply for DROP distributions due to unforeseeable emergencies. Following the Board's adoption of the addendum, staff issued a DROP Unforeseeable Emergency Policy (the Policy) following the guidelines in Section 6 of the DROP Policy Addendum. Per Section 6.d. of the Policy, the Executive Director reviewed with the Board for their consideration an application that had not been approved.

After discussion, Mr. Sprecher made a motion to confirm the Executive Director's decision to deny the Unforeseeable Emergency Request from a Member based on the DROP Unforeseeable Emergency Policy. Mr. Hass seconded the motion, which was unanimously approved by the Board.

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14. Closed Session - Board serving as Medical Committee

Disability recalls

The Board went into closed executive session – medical at 1:46 p.m.

The meeting was reopened at 1:54 p.m.

**Regular Board Meeting
Thursday, February 9, 2017**

14. Closed Session - Board serving as Medical Committee (continued)

After discussion, Mr. Brown made a motion to approve continuance of the on-duty, Combined Pension Plan, Group B disability benefit, with no further medical recalls due, since the Member will attain the age of 50 within two years. Mr. Ho seconded the motion, which was unanimously approved by the Board. Mr. Wilson was not present for this vote.

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15. Executive Director's contract

The Board went into closed executive session – personnel at 1:54 p.m.

The meeting was reopened at 2:06 p.m.

After discussion, Mr. Conway made a motion to approve the proposed amendment to the Executive Director's contract. Mr. Ho seconded the motion, which was approved by the following vote:

For: Conway, Ho, Friar, Schutz, Hass, Gates, Brown, Sprecher

Against: Griggs

Messrs. Haben and Wilson were not present when the vote was taken.

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16. Internal Controls

Ms. Loveland presented a brief overview of internal controls in place at DPFP.

No motion was made.

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D. 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.

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**Regular Board Meeting
Thursday, February 9, 2017**

2. Executive Director's report

- a.** Future Education and Business Related Travel
- b.** Future Investment Related Travel
- c.** Associations' newsletters
 - NCPERS Monitor (January 2017)

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. Conway and a second by Mr. Brown, the meeting was adjourned at 2:14 p.m.

Samuel L. Friar
Chairman

ATTEST:

Kelly Gottschalk
Secretary

Dallas Police and Fire Pension System
Tuesday, February 14, 2017
1:30 p.m.
Second Floor Board Room
4100 Harry Hines Blvd., Suite 100
Dallas, TX

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

ROLL CALL

Board Members

Present at 1:30 p.m. Samuel L. Friar, Joseph P. Schutz, Scott Griggs, Brian Hass, Jennifer S. Gates, Tho T. Ho, Clint Conway, Kenneth Sprecher, Philip T. Kingston
Present at 1:34 p.m. Gerald D. Brown
Present at 1:40 p.m. Erik Wilson

Absent: Kenneth S. Haben

Staff Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Linda Rickley

Others Chuck Campbell (by telephone), D. D. Pierce, Larry Goldsmith, Joseph Stephens, Lloyd D. Brown, Danny L. Millaway, A. C. Tarvez, James Freeman, Thomas Belcher, James Elliston, W. R. Bricker, Don Howard, Ennis Hill, Bryant Tillery, Larry Evans, James E. Baker, Tom Moore, J. Dunn, Thomas Moorman, Cindy Syes, James E. Bates, Kathy L. Bates, Martin Kemp, Felecia Kemp, Larry Williams, Jim Aulbaugh, Chris Peterson, Joel Lavender, Imogen Rose-Smith, Lori Brown, Bob Hawman, Cody W. Marcau, Zaman Hemani, Sandy Alexander, Jason Trahan, Tristan Hallman

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The meeting was called to order at 1:30 p.m.

A. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. Legal issues

- a.** Rawlings v. Dallas Police and Fire Pension System
- b.** Degan et al. v. DPF Board of Trustees (Federal suit)

**Special Meeting
Tuesday, February 14, 2017**

1. Legal issues (continued)

The Board went into closed executive session – legal at 1:48 p.m.

The meeting was reopened at 2:26 p.m.

Mr. Sprecher made a motion to retain Haynes & Boone in the matter of Degan et al. v. DPFP Board of Trustees (Federal suit). Mr. Brown seconded the motion, which was unanimously approved by the Board.

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2. Amendment of Bank of America loan agreement

After discussion, Mr. Sprecher made a motion to direct the Executive Director to pursue and close Option #2 previously presented, as modified. Mr. Conway seconded the motion, which was approved by the following vote:

For: Sprecher, Conway, Friar, Schutz, Hass, Ho, Brown

Against: Gates, Griggs, Kingston, Wilson

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B. BRIEFING ITEM

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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Special Meeting
Tuesday, February 14, 2017

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. Wilson, the meeting was adjourned at 2:33 p.m.

Samuel L. Friar
Chairman

ATTEST:

Kelly Gottschalk
Secretary

Dallas Police and Fire Pension System
Monday, February 20, 2017
8:30 a.m.
Second Floor Board Room
4100 Harry Hines Blvd., Suite 100
Dallas, TX

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

ROLL CALL

Board Members

Present at 8:30 a.m. Samuel L. Friar, Joseph P. Schutz, Brian Hass, Tho T. Ho, Clint Conway, Kenneth Sprecher
Present at 8:33 a.m. Jennifer S. Gates
Present at 8:35 a.m. Scott Griggs
Present at 8:37 a.m. Philip T. Kingston

Absent: Kenneth S. Haben, Gerald D. Brown, Erik Wilson

Staff

Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Linda Rickley, Carol Huffman

Others

Rocky Joyner (by telephone), Jeff Williams (by telephone), Bill Warrick, Thomas White, H. R. Andrews, Mark Gibbons, Marlin Price, Frank Varner, Thomas Bowers, Larry Goldsmith, Paul Jarvis, Judy Aloï, James Elliston, Joe Philpott, Brett Binford, A. D. Donald, Joe M. Spigner, Frank Ruspoli, Ingrid Spiotta, Jimmy Davis, James Freeman, Patrick Anderson, Sr., Vincent Aloï, Tom Taylor, Mike Adamek, Patrick Lewter, Don Howard, Lloyd D. Brown, Forrest Fenwick, Bill Knobel, Ennis Hill, Rick Thomas, David Thornton, Phil Ruzicki, Ron Acken, Kathy Acken, Ricky Quarles, Yvonne Quarles, D. D. Pierce, David J. Slavik, Michael Spiotta, Kenneth Campbell, Larry Williams, Mary Hershiser, Paul Ellery, Joseph Freeze, Laura Spray, Joel Lavender, Charles E. Luedeker, Tom Moore, Tom Moorman, Roselio Rodriguez, David E. Gibson, Lynn A. Reves, Mark Stovall, Dan Wojcik, James Thompson, Mike Dorety, Marcus Sharp, Jackie Brown, Ron Weimer, James Bates, Kathy Bates, William B. Smith, James R. Moore, Jr., William Murrell, Aaron Anderson, Kathy Jones-Anderson, Ron Pinkston, Jesse Aguirre, A. M. Vidal, Lingburge Williams, Reuben Millsaps, Roy Ferguson, Sheryl R. Scott, Billy Johnson, Carolyn Tillery, Tolvía D. Wilcoxson, Jill Muncy, Mark Moeller, Bryant Tillery, James Baker, Julian Bernal, Sandino L. Contreras, Charles W. Schmidt, Jr., Kenneth Seguin, Chris Peterson, Jack Clower, Rick Salinas, Pete Bailey,

Special Meeting
Monday, February 20, 2017

Others (continued) J. Dunn, Travis Payne, Jerome Zabojnik, John Nichols, Joe Kay, Jeff Patterson, Mark Langford, Jack McClendon, Michael Gomez, Jim Aulbaugh, Victor Woodberry, Michael Cole, Felecia Kemp, Martin Kemp, Sr., Sal Morales, Melvin Thomas, Charles E. Gale, Nancy L. Webb, Dale Erves, Tom Miller, Octavio Saldana, Danny W. Robinson, Michael McGehee, Herman T. Sawyer, Jerry B. Williams, Morris Popeita, Joseph Martinez, Michael Mata, Leon Hollins, Michael Jones, Sandy Alexander, Thomas Costley, Jack Fink, John F. Thompson, Hannah Davis, Wally Guerra, Alex Boyer, Vanessa Brown, Andy Adams, Tristan Hallman, Ashleigh Barry, Scott Sidway, Barry Blonstein, Sandy Moncada

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The meeting was called to order at 8:33 a.m.

A. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

Discussion and possible action on Legislative Matters

- a. Compromise Proposal from Chairman Flynn
- b. City of Dallas' plan

The Board and staff discussed the Flynn plan and the City of Dallas plan.

The meeting was recessed at 9:25 a.m.

The meeting was reconvened at 9:35 a.m.

After discussion, Mr. Kingston made a motion to authorize the Executive Director and General Counsel to continue to work with Representative Dan Flynn's plan for the most advantageous outcome for the Dallas Police & Fire Pension System beneficiaries. Mr. Griggs seconded the motion, which was unanimously approved by the Board.

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Special Meeting
Monday, February 20, 2017

B. BRIEFING ITEM

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. Hass and a second by Mr. Schutz, the meeting was adjourned at 10:38 a.m.

Samuel L. Friar
Chairman

ATTEST:

Kelly Gottschalk
Secretary

Dallas Police and Fire Pension System
Monday, February 27, 2017
6:30 p.m.
Second Floor Board Room
4100 Harry Hines Blvd., Suite 100
Dallas, TX

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

ROLL CALL

Board Members

Present at 6:30 p.m. Samuel L. Friar, Kenneth S. Haben, Joseph P. Schutz, Scott Griggs,
Brian Hass, Jennifer S. Gates, Tho T. Ho, Gerald D. Brown, Clint
Conway
Present at 6:31 p.m. Kenneth Sprecher
Present at 6:34 p.m. Erik Wilson
Present at 6:39 p.m. Philip T. Kingston

Absent: None

Staff Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Linda
Rickley

Others Chuck Campbell (by telephone), David Dodson, Tristan Hallman

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The meeting was called to order at 6:30 p.m.

**DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL
CONSIDERATION**

Legal issues

Rawlings v. Dallas Police and Fire Pension System

After discussion, Mr. Conway made a motion to ask the Council Trustees to leave the Board room so that Haynes & Boone could discuss the case with the eight Police and Fire Trustees who they represent in the Rawlings case. Mr. Brown seconded the motion.

Special Meeting
Monday, February 27, 2017

Legal issues (continued)

Mr. Griggs requested an amendment to the motion to stipulate that DROP lump sum disbursements not be discussed in closed executive session - legal without the Council Trustees being present. Ms. Gates seconded the amendment request. The amendment failed by the following vote:

For: Griggs, Gates, Wilson

Against: Friar, Haben, Schutz, Hass, Ho, Brown, Conway, Sprecher

Mr. Kingston was not present when the vote was taken.

Mr. Conway's original motion was approved by the following vote:

For: Conway, Brown, Friar, Haben, Schutz, Hass, Ho, Sprecher

Against: Gates, Griggs, Wilson

Mr. Kingston was not present when the vote was taken.

Mr. Wilson left the meeting at 6:39 p.m.

The Board went into closed executive session – legal at 6:39 p.m.

The meeting was reopened at 7:10 p.m.

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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. Hass, the meeting was adjourned at 7:11 p.m.

Samuel L. Friar
Chairman

ATTEST:

Kelly Gottschalk
Secretary



DISCUSSION SHEET

ITEM #C1

Topic: Certification of applications for Trustee for 2017 Trustee election ballot

Discussion: At the January 12, 2017 meeting of the Board, the Board called for an election to fill the four Trustee positions whose terms expire on June 1, 2017:

<u>Incumbent</u>	<u>Place</u>
Ken Haben	Police Trustee (Place P-1)
Sam Friar	Fire Trustee (Place F-1)
Jerry Brown	Fire Pensioner Trustee (Place 1)
Ken Sprecher	Police Pensioner Trustee (Place 1)

Applications for Trustee candidacy were made available to members who are interested in running for an expiring term from 8:00 a.m., February 13, 2017, through 4:00 p.m. on February 28, 2017.

Staff will provide the Board a list of applicants who returned applications by the deadline and were determined by the Executive Director to have met qualifications to be placed on the ballot for the Trustee election.

In accordance with the Trustee Election Procedures, the Board shall certify the Executive Director's report of names to be placed on the ballot not less than fourteen days before voting commences.



DISCUSSION SHEET

ITEM #C1 (continued)

The voting period is scheduled from 8:00 a.m., Friday, March 24, 2017, through 12:00 p.m., on Friday, April 7, 2017.

Staff

Recommendation: **Certify** the Executive Director's report of trustee applicant names to be placed on the ballot.



Prospective Candidates – 2017 Trustee Election
(Filed applications by 4 p.m. on 2/28/2017)

Police Positions

Police Place 1 (P-1)

Ken Haben - Incumbent

Police Pensioner, Place 1

Thomas D. Bowers, Jr.

Ken Sprecher - Incumbent

Joseph Thompson

Fire Positions

Fire Place 1 (F-1)

Sam Friar - Incumbent

Fire Pensioner, Place 1

Jerry T. Minter

Larry D. Williams



DISCUSSION SHEET

ITEM #C2

Topic: Discussion and possible action on Legislative Matters

- a. Status of DPFP plan legislation
- b. Other pension-related legislative issues

Discussion:

- a. Staff will update the Board on the status of the DPFP plan legislation.
- b. Staff will brief the Board on pension bills that have been filed which may bear on DPFP.



DISCUSSION SHEET

ITEM #C3

Topic: Consideration of possible Deferred Retirement Option Plan (DROP) accounts distribution in accordance with DROP Policy Addendum

- a. Certification of reserve amount
- b. Certification of excess liquidity amount
- c. Determination of distribution amount

Discussion: a. Staff will present the components of the reserve amount calculated in accordance with the DROP Policy Addendum for the Board's consideration. The reserve amount is used in determining whether DROP distributions are available for payment to eligible members for the current month and considers the following obligations that are essential to DFPF's efficient administration:

- i. No less than 12 months of monthly annuity benefit payments, less monthly contributions for the same period;
- ii. No less than 12 months of anticipated operating expenses;
- iii. No less than 12 months of Minimum Annual Distributions pursuant to the DROP Policy Addendum;
- iv. All anticipated Required Minimum Distributions for the coming year;
- v. All outstanding indebtedness; and



DISCUSSION SHEET

ITEM #C3

(continued)

- vi. All outstanding capital commitments for existing private market investments as well as no less than 12 months of other anticipated investment-related expenditures.
- b. Staff will present the determination of the excess liquidity amount calculated in accordance with the DROP Policy Addendum for the Board's consideration. The excess liquidity amount represents the amount of total liquid assets in excess of 1) the reserve amount and 2) the Minimum Annual Distributions to be paid for the current month.
- c. The Staff will discuss the possible effects of payment of excess liquidity amounts on the efficient administration of DFPF.

Staff

Recommendation:

- a. **Certify** the reserve amount.
- b. **Certify** the excess liquidity amount.
- c. To be provided at the meeting.



DISCUSSION SHEET

ITEM #C4

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. 2016 Plan amendment litigation
- e. Rawlings v. Dallas Police and Fire Pension System
- f. DPFPP v. Columbus A. Alexander III
- g. Degan et al. v. DPFPP Board of Trustees (Federal suit)

Discussion: Counsel will brief the Board on these issues.



DISCUSSION SHEET

ITEM #C5

Topic:

NEPC

- a. Fourth Quarter 2016 Investment Performance Analysis
- b. Third Quarter 2016 Private Markets & Real Assets Review
- c. Current cash allocation

Discussion:

NEPC will present the above reports and discuss the current cash allocation.



NEPC, LLC

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Dallas Police & Fire Pension System

Investment Summary

Quarter Ending December 31, 2016

March 9, 2017

Rhett Humphreys, CFA
Partner

Keith Stronkowsky, CFA
Senior Consultant

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | www.nepc.com

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Q4 2016 Market Update

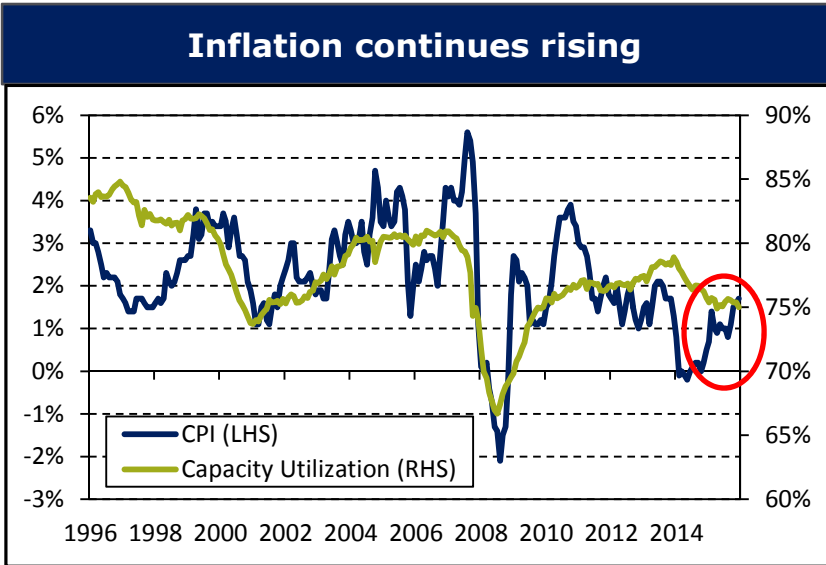


Index Performance Summary as of 12/30/2016

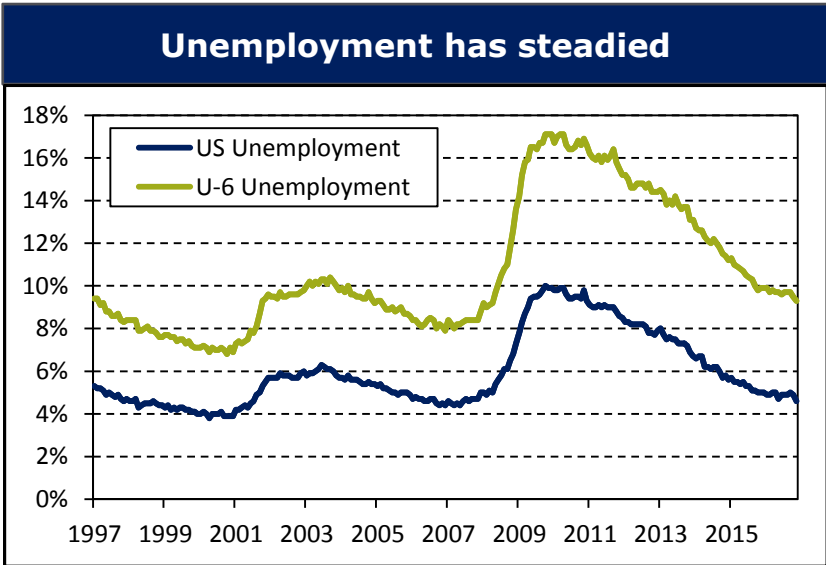
	2009	2010	2011	2012	2013	2014	2015	Q1	Q2	Q3	Oct	Nov	Dec	Q4	YTD
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	-1.5%	3.8%	9.0%	-4.8%	11.2%	2.8%	8.8%	21.3%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	-4.2%	19.7%	1.1%	-4.5%	2.3%	4.4%	2.0%	18.3%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	0.4%	3.6%	6.6%	-4.1%	8.5%	1.9%	6.1%	17.6%
Barclays US Corp HY	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	3.4%	5.5%	5.6%	0.4%	-0.5%	1.8%	1.8%	17.1%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	1.2%	2.5%	4.0%	-2.0%	3.9%	1.9%	3.8%	12.1%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	1.3%	2.5%	3.9%	-1.8%	3.7%	2.0%	3.8%	12.0%
BBG Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	0.4%	12.8%	-3.9%	-0.5%	1.3%	1.8%	2.7%	11.8%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	5.7%	0.7%	9.0%	0.2%	-4.6%	0.2%	-4.2%	11.2%
Barclays US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	6.8%	6.7%	2.3%	-2.1%	-4.9%	1.5%	-5.4%	10.2%
JPM EMBI Global Div	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	5.0%	5.0%	4.0%	-1.2%	-4.1%	1.3%	-4.0%	10.2%
JPM GBI-EM Global Div	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	11.0%	2.7%	2.7%	-0.8%	-7.0%	1.9%	-6.1%	9.9%
Credit Suisse Lev Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	1.3%	2.9%	3.1%	0.8%	0.3%	1.1%	2.3%	9.9%
FTSE NAREIT Eqy REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	6.0%	7.0%	-1.4%	-5.7%	-1.7%	4.7%	-2.9%	8.5%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	0.2%	1.0%	5.3%	-1.7%	0.8%	2.2%	1.2%	7.9%
BC Long US Govt/Credit	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	7.3%	6.5%	1.2%	-2.8%	-5.8%	0.7%	-7.8%	6.7%
Barclays US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	3.0%	2.2%	0.5%	-0.8%	-2.4%	0.1%	-3.0%	2.6%
Barclays US Agg Int.	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.3%	1.4%	0.3%	-0.4%	-1.7%	0.0%	-2.0%	2.0%
Citi WGBI	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	7.1%	3.4%	0.3%	-3.4%	-4.6%	-0.7%	-8.5%	1.6%
BC US STRIPS 20+	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	11.4%	9.6%	-0.2%	-6.2%	-10.5%	-0.9%	-16.7%	1.4%
BC US Gov/Cred 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.0%	0.7%	0.0%	0.0%	-0.4%	0.1%	-0.4%	1.3%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-3.0%	-1.5%	6.4%	-2.0%	-2.0%	3.4%	-0.7%	1.0%
CS Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	-2.2%	0.6%	1.7%	-0.2%	-0.2%	-	0.2%	0.3%
Barclays Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	1.7%	2.6%	-0.3%	-1.0%	-3.7%	1.2%	-3.6%	0.2%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse

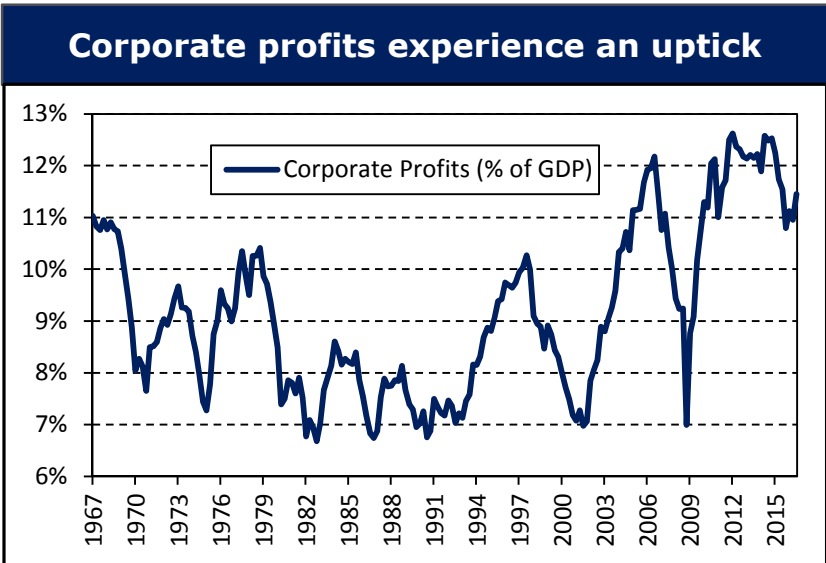
US Economic Indicators



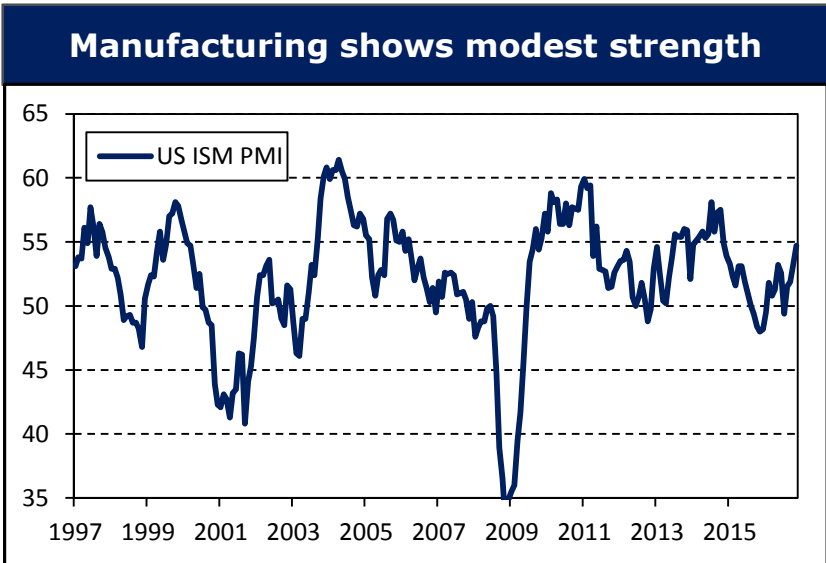
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics



Source: Bloomberg, Bureau of Labor Statistics



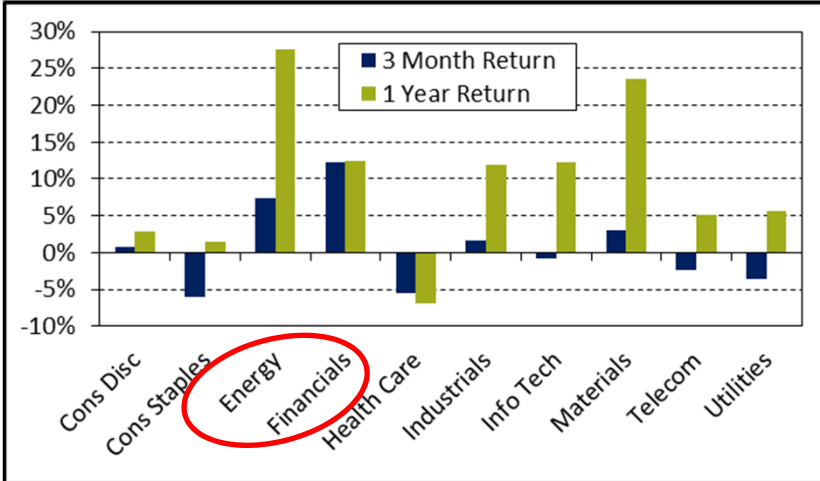
Source: Bloomberg, Bureau of Economic Analysis



Source: Bloomberg, Institute for Supply Management

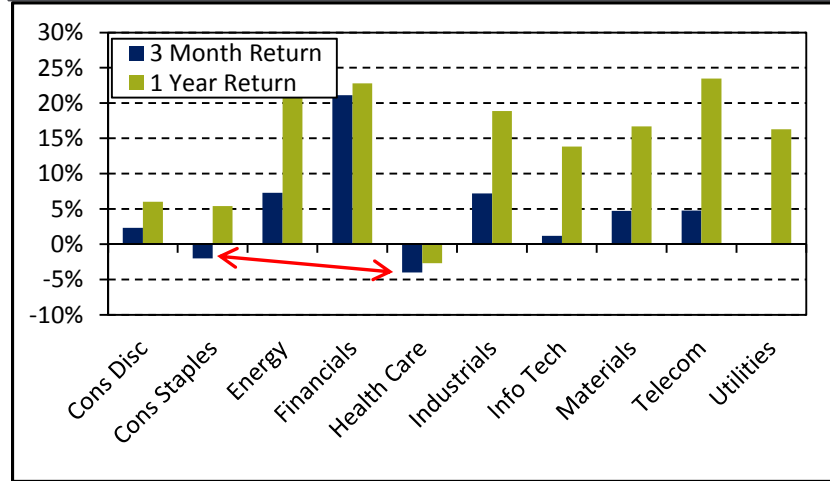
Global Equity by Sector

Energy and Financials lead MSCI ACWI short-term returns



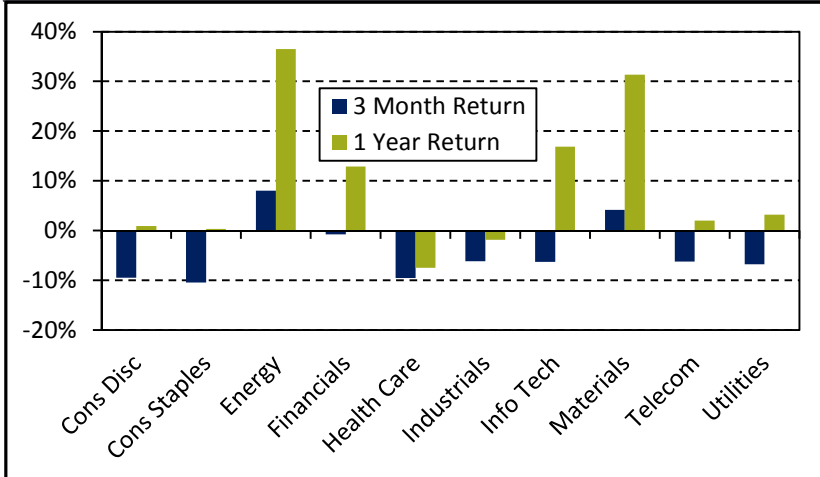
Source: Bloomberg, MSCI

Healthcare and Consumer Staples drag S&P 500 short-term returns



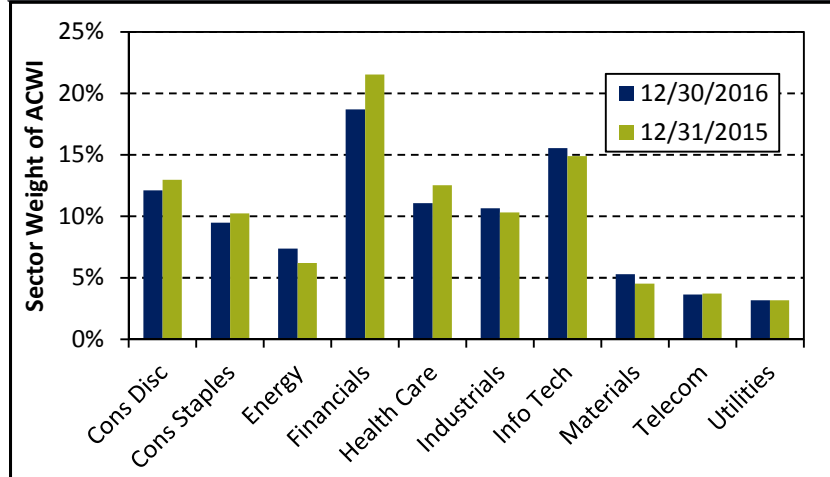
Source: Bloomberg, Standard and Poors

Energy and Materials continue their strong performance in EM



Source: Bloomberg, MSCI

Financials sector weight has decreased significantly

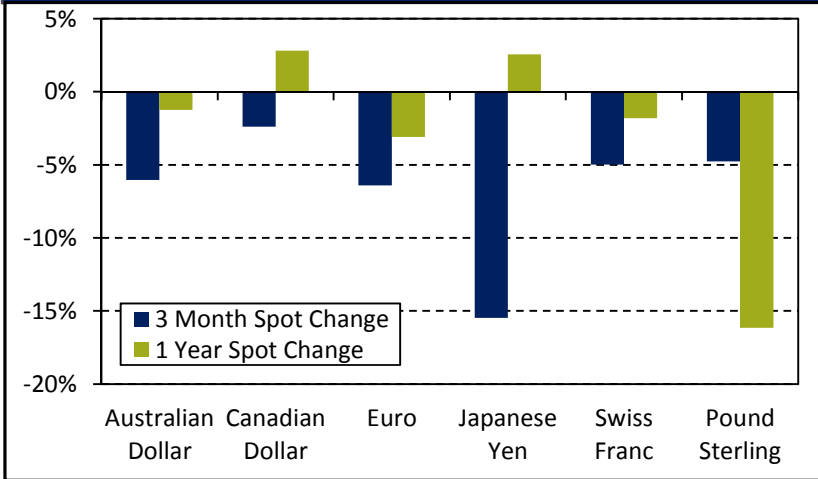


Source: Bloomberg, MSCI



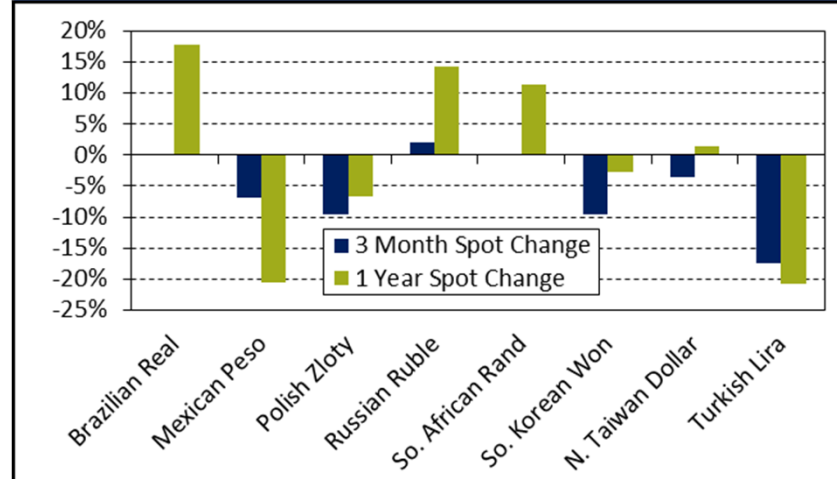
Currencies

Developed currencies have declined versus the dollar



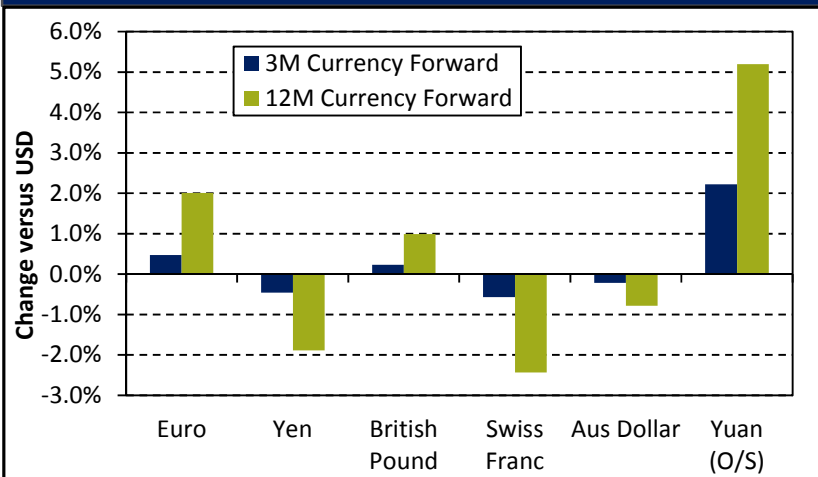
Source: Bloomberg

A number of currencies have experienced sharp depreciation



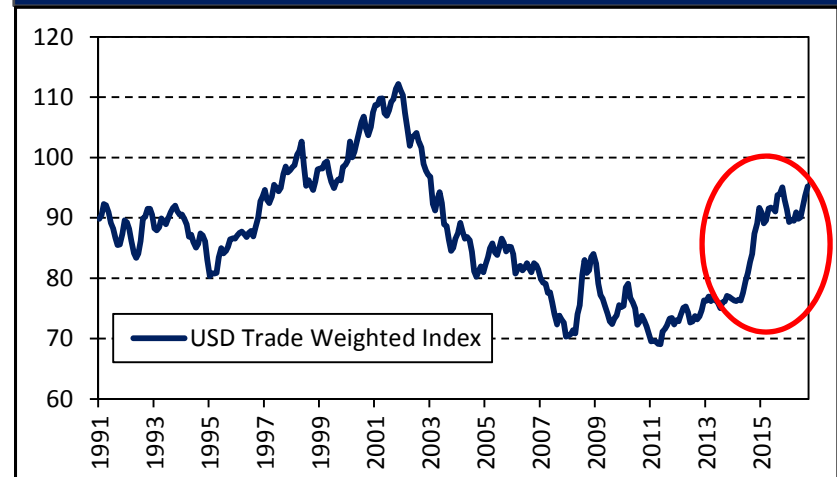
Source: Bloomberg

USD expectations vary across developed markets



Source: Bloomberg

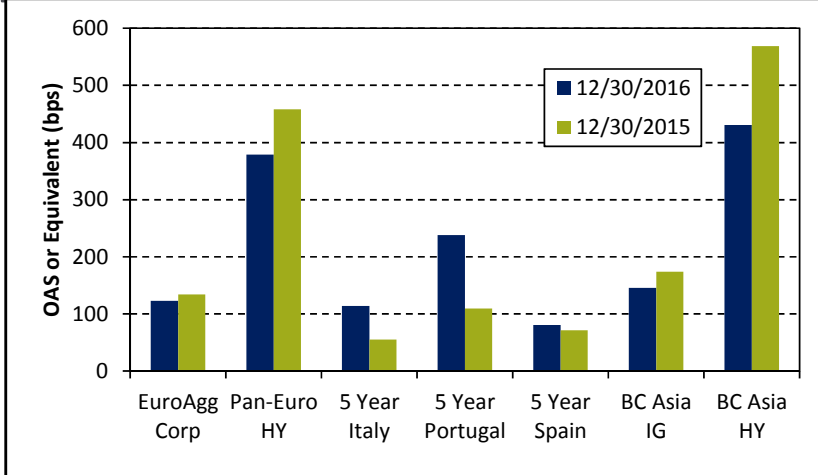
Dollar strength persists



Source: Bloomberg, Federal Reserve

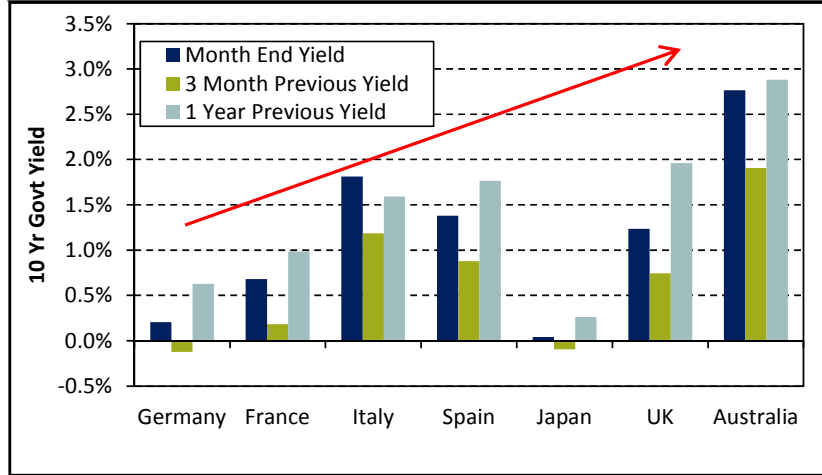
International Developed Fixed Income

European periphery yields vary relative to Germany



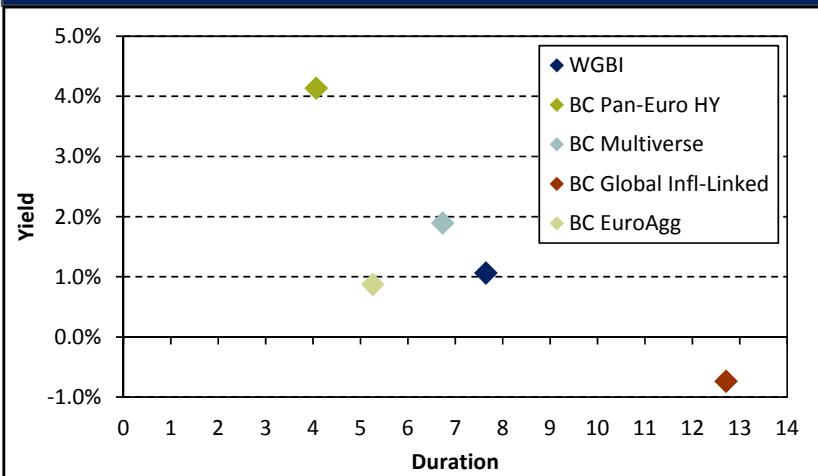
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Global yields have increased post rate hike



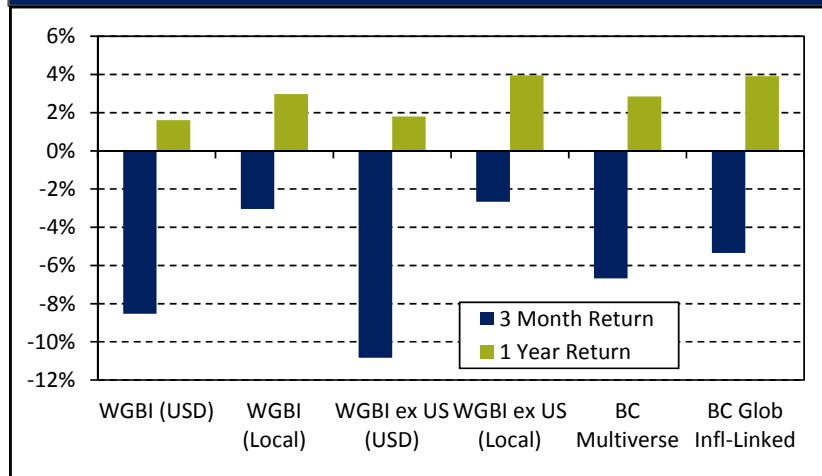
Source: Bloomberg

Low yields persist in global bond universe



Source: Bloomberg, Citigroup, Barclays

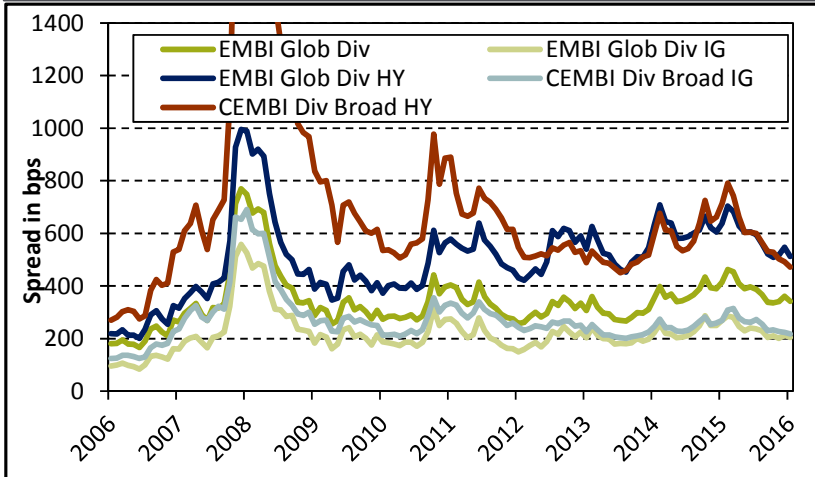
Global bond returns hurt by rising yields



Source: Bloomberg, Citigroup, Barclays

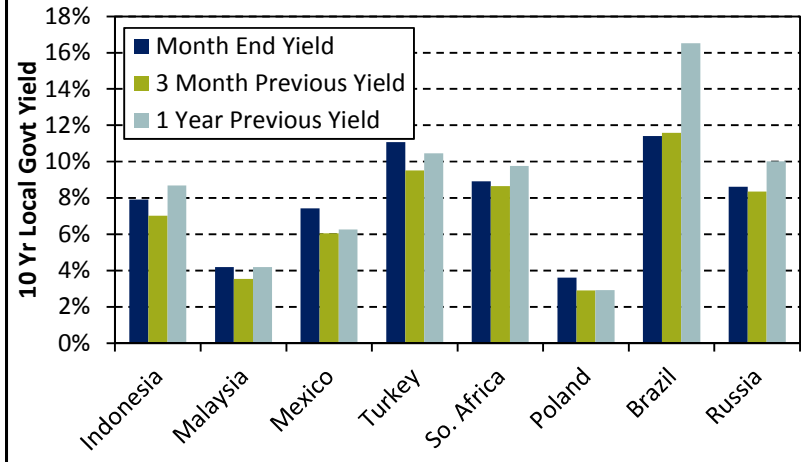
Emerging Markets Fixed Income

Spreads continue to decline



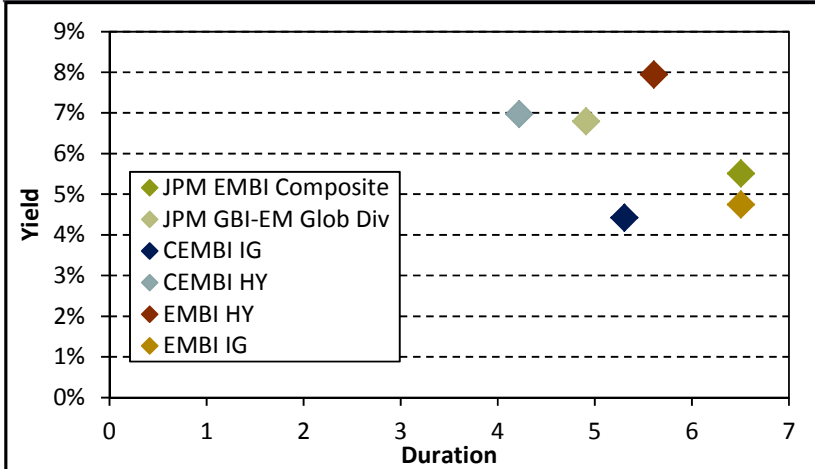
Source: Bloomberg, JP Morgan

EM local bond yields increased slightly



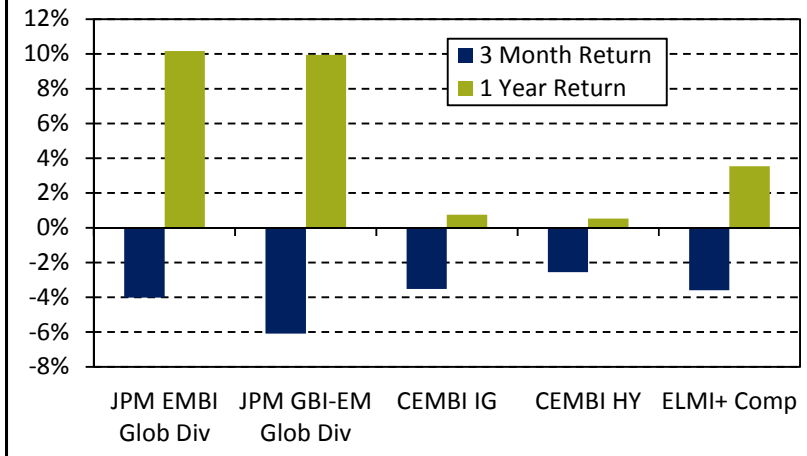
Source: Bloomberg

EM yields remain attractive versus global counterparts



Source: Bloomberg, JP Morgan

EM debt posts negative short-term returns



Source: Bloomberg, JP Morgan



- **Past performance is no guarantee of future results.**
- **The goal of this report is to provide a basis for monitoring financial markets. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
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Q4 2016 Performance & Asset Allocation



Asset Allocation: Broad Composites

	Market Value \$	% of Portfolio	Policy %
Total Equity	506,996,408	23.6%	30%
Total Fixed Income	289,189,366	13.5%	33%
Total GAA	133,973,442	6.2%	10%
Total Real Assets	1,023,688,940	47.7%	25%
Cash	324,327,596	15.1%	2%
DPFP Debt	(130,000,000)	-6.1%	---
Total DPFP	2,148,175,753	100%	100%



Asset Allocation: By Asset Class

	Current Allocation \$	Current Allocation %	Policy %
Global Equity	155,565,752	7.2%	20%
Emerging Market Equity	--	0.0%	5%
Private Equity	351,430,656	16.4%	5%
<i>Total Equity</i>	506,996,408	23.6%	30%
Short-Term Core Bonds	--	0.0%	2%
High Yield	73,528,112	3.4%	5%
Bank Loans	56,185,908	2.6%	6%
Emerging Market Debt	38,502,186	1.8%	6%
Global Bonds	59,301,063	2.8%	3%
Structured & AR Credit	--	0.0%	6%
Private Debt	61,672,097	2.9%	5%
<i>Total Fixed Income</i>	289,189,366	13.5%	33%
GTAA	20,635,366	1.0%	3%
Risk Parity	75,119,348	3.5%	5%
Absolute Return	38,218,728	1.8%	2%
<i>Total GAA</i>	133,973,442	6.3%	10%
Real Estate	580,866,002	27.0%	12%
Real Assets – Liquid	--	0.0%	3%
Natural Resources	264,588,702	12.3%	5%
Infrastructure	178,234,236	8.3%	5%
<i>Total Real Assets</i>	1,023,688,940	47.6%	25%
Cash	324,327,596	15.1%	2%
DPPF Debt	(130,000,000)	-6.1%	--
Total	2,148,175,753	100%	100%



Asset Allocation: Portfolio Lookthrough

	Lookthrough %	Actual %	Policy %
US Equity	3.8%	--	--
International Equity	3.6%	--	--
Emerging Markets Eq	0.5%	--	5%
Global Equity	--	7.2%	20%
Private Equity	16.4%	16.4%	5%
<i>Total Equity</i>	24.3%	23.6%	30%
Short-Term Core Bonds	--	--	2%
High Yield	3.4%	3.4%	5%
Bank Loans	2.6%	2.6%	6%
Emerging Market Debt	2.0%	1.8%	6%
Global Bonds	4.9%	2.8%	3%
Structured & AR Credit	--	--	6%
Private Debt	2.9%	2.9%	5%
<i>Total Fixed Income</i>	15.8%	13.5%	33%

	Lookthrough %	Actual %	Policy %
GTAA	--	1.0%	3%
Risk Parity	--	3.5%	5%
Absolute Return	--	1.8%	2%
Hedge Funds	2.5%	--	--
<i>Total GAA</i>	2.5%	6.3%	10%
Real Estate	27.6%	27.0%	12%
Real Assets – Liquid	--	--	3%
Natural Resources	12.3%	12.3%	5%
Infrastructure	8.3%	8.3%	5%
<i>Total Real Assets</i>	48.2%	47.6%	25%
Cash	15.3%	15.1%	2%
DPFP Debt	-6.1%	-6.1%	--

Dallas Police & Fire Pension

Trailing Returns: By Broad Composite

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
DPFP	2,148,175,753	100.0	-0.1	89	3.2	99	-2.1	99	1.6	99	2.6	99	1.4	99	6.1	Jun-96
<i>Policy Index</i>			0.3	76	9.6	2	7.1	1	9.2	9	8.7	7	5.6	12	--	<i>Jun-96</i>
Total Equity	506,996,408	23.6	-3.7	--	1.9	--	2.1	--	9.1	--	--	--	--	--	6.3	Dec-10
<i>Total Equity Policy Index</i>			1.0	--	10.3	--	--	--	--	--	--	--	--	--	--	<i>Dec-10</i>
Total Fixed Income	289,189,366	13.5	1.0	22	11.8	15	2.1	49	5.5	22	7.2	11	5.4	31	5.9	Jul-06
<i>Total Fixed Income Policy Index</i>			-0.8	38	10.1	20	--	--	--	--	--	--	--	--	--	<i>Jul-06</i>
Total GAA	133,973,442	6.2	3.7	1	13.0	6	4.2	44	5.1	87	6.3	61	--	--	3.7	Jul-07
<i>Total Asset Allocation Policy Index</i>			-1.8	73	4.6	80	5.3	40	5.9	79	6.3	60	--	--	6.5	<i>Jul-07</i>
Total Real Assets	1,023,688,940	47.7	1.3	--	-1.8	--	-8.0	--	-5.9	--	--	--	--	--	-5.0	Dec-10
<i>Total Real Assets Policy Index</i>			1.6	--	13.5	--	--	--	--	--	--	--	--	--	--	<i>Dec-10</i>
Cash Equivalents	324,327,596	15.1	0.1	--	1.3	--	--	--	--	--	--	--	--	--	1.1	Apr-15
<i>91 Day T-Bills</i>			0.1	--	0.3	--	0.1	--	0.1	--	0.1	--	0.7	--	0.2	<i>Apr-15</i>

Policy Indexes are calculated using policy benchmarks and weights of the underlying sub composites.

Net of fees returns shown on report are time weighted.

Dallas Police & Fire Pension

Trailing Returns: By Asset Class

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
DPFP	2,148,175,753	100.0	-0.1	89	3.2	99	-2.1	99	1.6	99	2.6	99	1.4	99	6.1	Jun-96
<i>Policy Index</i>			0.3	76	9.6	2	7.1	1	9.2	9	8.7	7	5.6	12	--	Jun-96
Global Equity	155,565,752	7.2	-0.1	50	7.1	40	3.8	41	10.0	53	8.3	52	3.9	46	4.9	Jul-06
<i>MSCI ACWI Gross</i>			1.3	36	8.5	30	3.7	43	10.0	53	7.8	62	4.1	45	5.2	Jul-06
Private Equity	351,430,656	16.4	-4.9	--	-1.2	--	-5.8	--	-1.6	--	0.2	--	-0.5	--	2.1	Oct-05
<i>Russell 3000 + 3%</i>			5.0	--	16.1	--	11.7	--	18.1	--	16.3	--	10.3	--	11.1	Oct-05
Global Bonds	59,301,063	2.8	-5.9	75	3.0	72	0.1	72	1.2	73	--	--	--	--	1.9	Dec-10
<i>BBgBarc Global Aggregate TR</i>			-7.1	85	2.1	79	-0.2	75	0.2	85	1.7	88	3.3	81	1.1	Dec-10
High Yield	73,528,112	3.4	3.0	3	20.1	1	2.3	79	6.6	60	--	--	--	--	6.5	Dec-10
<i>BBgBarc Global High Yield TR</i>			-0.2	80	14.3	35	3.6	63	7.4	34	7.8	31	7.3	1	6.7	Dec-10
Bank Loans	56,185,908	2.6	2.2	6	11.8	14	3.9	26	--	--	--	--	--	--	3.9	Jan-14
<i>S&P/LSTA U.S. Leveraged Loan</i>			2.3	5	10.2	20	3.6	30	5.1	24	5.3	29	4.6	46	3.6	Jan-14
Emerging Markets Debt	38,502,186	1.8	-3.2	37	13.6	11	1.4	60	2.6	57	--	--	--	--	2.6	Dec-10
<i>50% JPM EMBI/50% JPM GBI-EM</i>			-5.1	71	10.3	50	0.7	61	2.1	59	--	--	--	--	2.3	Dec-10
Private Debt	61,672,097	2.9	5.1	--	3.8	--	--	--	--	--	--	--	--	--	3.8	Jan-16
<i>Barclays Global High Yield +2%</i>			0.3	--	16.5	--	--	--	--	--	--	--	--	--	16.5	Jan-16
Risk Parity	75,119,348	3.5	-1.2	64	12.1	20	3.6	49	4.7	99	--	--	--	--	6.4	Dec-10
<i>60% MSCI ACWI/40% Barclays Global Agg</i>			-2.2	78	5.7	65	1.9	86	5.8	80	5.2	95	3.8	88	4.4	Dec-10
GTAA	20,635,366	1.0	-1.5	65	4.6	39	1.3	53	4.8	38	--	--	--	--	4.8	Dec-10
<i>60% MSCI ACWI/40% Barclays Global Agg</i>			-2.2	73	5.7	34	1.9	40	5.8	24	5.2	37	3.8	60	4.4	Dec-10
Absolute Return	38,218,728	1.8	21.8	1	12.7	3	10.6	1	8.3	5	--	--	--	--	8.2	Aug-11
<i>HFRX Absolute Return Index</i>			-0.3	45	0.3	88	1.3	52	1.7	92	0.6	95	-0.7	99	1.2	Aug-11
Natural Resources	264,588,702	12.3	0.3	--	3.1	--	--	--	--	--	--	--	--	--	4.1	Apr-15
<i>Natural Resources Benchmark</i>			6.6	--	31.5	--	16.7	--	16.0	--	--	--	--	--	20.9	Apr-15
Infrastructure	178,234,236	8.3	0.0	--	-4.8	--	-2.5	--	--	--	--	--	--	--	0.6	Jul-12
<i>Infrastructure Benchmark</i>			-4.1	--	12.4	--	7.9	--	--	--	--	--	--	--	7.5	Jul-12
Real Estate	580,866,002	27.0	2.2	--	-3.0	--	-11.8	--	-8.7	--	-6.3	--	-4.4	--	3.7	Mar-85
<i>NCREIF Property Index</i>			1.7	--	8.0	--	11.0	--	10.9	--	11.7	--	6.9	--	8.1	Mar-85
Cash Equivalents	324,327,596	15.1	0.1	--	1.3	--	--	--	--	--	--	--	--	--	1.1	Apr-15
<i>91 Day T-Bills</i>			0.1	--	0.3	--	0.1	--	0.1	--	0.1	--	0.7	--	0.2	Apr-15

Total Fund Risk/Return

3 Years Ending December 31, 2016

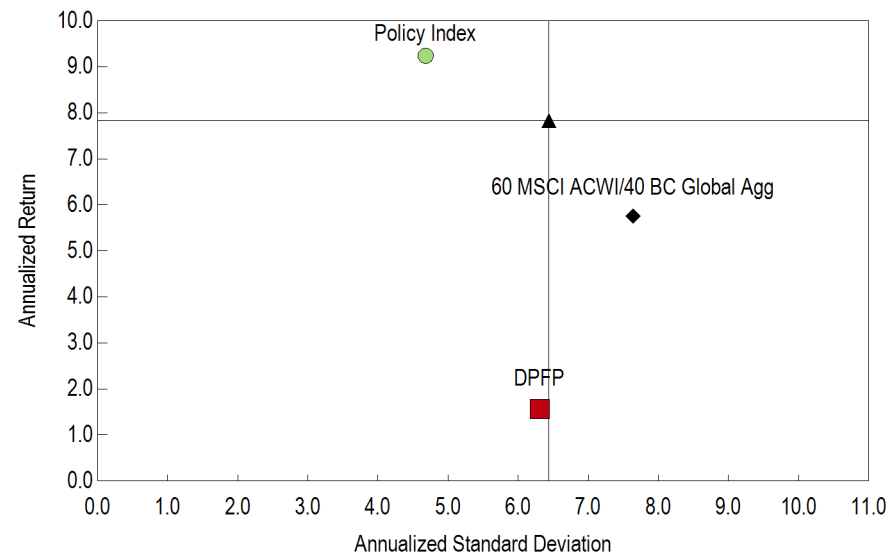
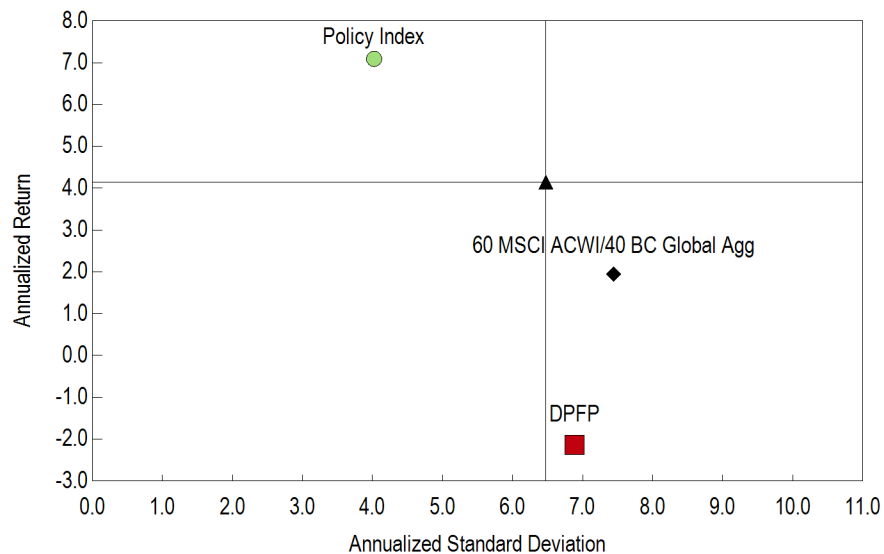
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
DPFP	-2.1%	99	6.9%	70
Policy Index	7.1%	1	4.0%	2
60 MSCI ACWI/40 BC Global Agg	1.9%	98	7.4%	87
InvestorForce Public DB Net Median	4.1%	--	6.5%	--

	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
DPFP	-0.33	99	-0.28	99
Policy Index	1.73	1	4.10	1
60 MSCI ACWI/40 BC Global Agg	0.24	98	0.50	96
InvestorForce Public DB Net Median	0.62	--	1.05	--

5 Years Ending December 31, 2016

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
DPFP	1.6%	99	6.3%	45
Policy Index	9.2%	9	4.7%	4
60 MSCI ACWI/40 BC Global Agg	5.8%	96	7.6%	91
InvestorForce Public DB Net Median	7.8%	--	6.4%	--

	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
DPFP	0.23	99	0.22	99
Policy Index	1.95	2	2.53	5
60 MSCI ACWI/40 BC Global Agg	0.74	99	1.23	97
InvestorForce Public DB Net Median	1.20	--	1.83	--



Attribution Analysis: By Asset Class – 3 Months Ending December 31, 2016

	Portfolio Weights		Returns		Attribution Effects By			
	DPFP [#]	Policy	DPFP	Index	Selection	Allocation	Interaction	Total [*]
Global Equity	7.2%	20.0%	-0.053%	1.303%	-0.263%	-0.144%	0.121%	-0.286%
Emerging Markets Equity	0.0%	5.0%	0.000%	-4.084%	0.204%	0.217%	-0.204%	0.217%
Private Equity	16.4%	5.0%	-4.897%	4.972%	-0.495%	0.652%	-1.392%	-1.235%
Short Term Core Bonds	0.0%	2.0%	0.000%	-0.457%	0.009%	0.015%	-0.009%	0.015%
Global Bonds	2.8%	3.0%	-5.940%	-7.068%	0.036%	0.034%	-0.006%	0.064%
High Yield	3.4%	5.0%	2.990%	-0.192%	0.157%	0.007%	-0.018%	0.146%
Bank Loans	2.6%	6.0%	2.232%	2.261%	-0.002%	-0.076%	0.001%	-0.076%
Structured & A/R Credit	0.0%	6.0%	0.000%	2.208%	-0.131%	-0.115%	0.131%	-0.115%
Emerging Markets Debt	1.8%	6.0%	-3.228%	-5.051%	0.112%	0.230%	-0.078%	0.264%
Private Debt	2.9%	5.0%	5.093%	0.304%	0.236%	-0.002%	-0.054%	0.180%
GTAA	1.0%	3.0%	-1.458%	-2.162%	0.021%	0.031%	0.005%	0.058%
Risk Parity	3.5%	5.0%	-1.156%	-2.162%	0.051%	0.027%	-0.017%	0.061%
Absolute Return	1.8%	2.0%	21.808%	-0.349%	0.419%	0.001%	-0.137%	0.283%
Real Estate	27.0%	12.0%	2.186%	1.730%	0.054%	0.170%	0.052%	0.277%
Liquid Real Assets	0.0%	3.0%	0.000%	2.076%	-0.062%	-0.054%	0.062%	-0.054%
Natural Resources	12.3%	5.0%	0.257%	6.583%	-0.311%	0.367%	-0.378%	-0.322%
Infrastructure	8.3%	5.0%	0.030%	-4.057%	0.203%	-0.087%	0.073%	0.189%
Cash Equivalents	15.1%	2.0%	0.112%	0.102%	0.000%	-0.017%	0.001%	-0.016%
Total[*]	106.1%	100.0%	-0.086%	0.265%	0.240%	1.254%	-1.845%	-0.351%

*Total column may not add to 100% due to rounding.

#Total DPFP portfolio weights include 6.1% in DPFP debt.



Attribution Analysis: By Asset Class – 12 Months Ending December 31, 2016

	Portfolio Weights		Returns		Attribution Effects By			
	DPFP#	Policy	DPFP	Index	Selection	Allocation	Interaction	Total*
Global Equity	7.2%	20.0%	7.083%	8.485%	-0.241%	-0.324%	0.109%	-0.455%
Emerging Markets Equity	0.0%	5.0%	0.000%	11.604%	-0.639%	-0.117%	0.639%	-0.117%
Private Equity	16.4%	5.0%	-1.153%	16.085%	-0.806%	1.159%	-2.839%	-2.485%
Short Term Core Bonds	0.0%	2.0%	0.000%	0.861%	-0.018%	0.191%	0.018%	0.191%
Global Bonds	2.8%	3.0%	2.955%	2.085%	0.029%	0.063%	-0.026%	0.065%
High Yield	3.4%	5.0%	20.108%	14.275%	0.269%	0.045%	-0.009%	0.304%
Bank Loans	2.6%	6.0%	11.849%	10.157%	0.166%	0.111%	-0.115%	0.161%
Structured & A/R Credit	0.0%	6.0%	0.000%	8.147%	-0.499%	0.128%	0.499%	0.128%
Emerging Markets Debt	1.8%	6.0%	13.557%	10.251%	0.184%	0.006%	-0.126%	0.065%
Private Debt	2.9%	5.0%	3.777%	16.535%	-0.614%	-0.155%	0.167%	-0.602%
GTAA	1.0%	3.0%	4.594%	5.688%	-0.035%	0.014%	-0.023%	-0.044%
Risk Parity	3.5%	5.0%	12.129%	5.688%	0.312%	-0.015%	0.137%	0.434%
Absolute Return	1.8%	2.0%	12.658%	0.308%	0.278%	0.096%	-0.072%	0.302%
Real Estate	27.0%	12.0%	-2.983%	7.967%	-1.301%	-0.211%	-1.292%	-2.804%
Liquid Real Assets	0.0%	3.0%	0.000%	7.193%	-0.221%	0.092%	0.221%	0.092%
Natural Resources	12.3%	5.0%	3.061%	31.455%	-0.991%	1.224%	-1.690%	-1.458%
Infrastructure	8.3%	5.0%	-4.833%	12.435%	-0.859%	-0.017%	-0.392%	-1.269%
Cash Equivalents	15.1%	2.0%	1.257%	0.301%	0.020%	-0.034%	0.002%	-0.013%
Total*	106.1%	100.0%	2.831%	10.258%	-4.968%	2.254%	-4.792%	-7.506%

*Total column may not add to 100% due to rounding.

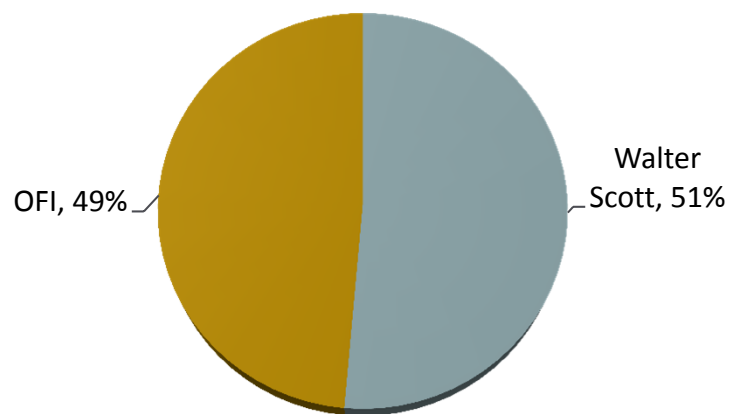
#Total DPFP portfolio weights include 6.1% in DPFP debt.



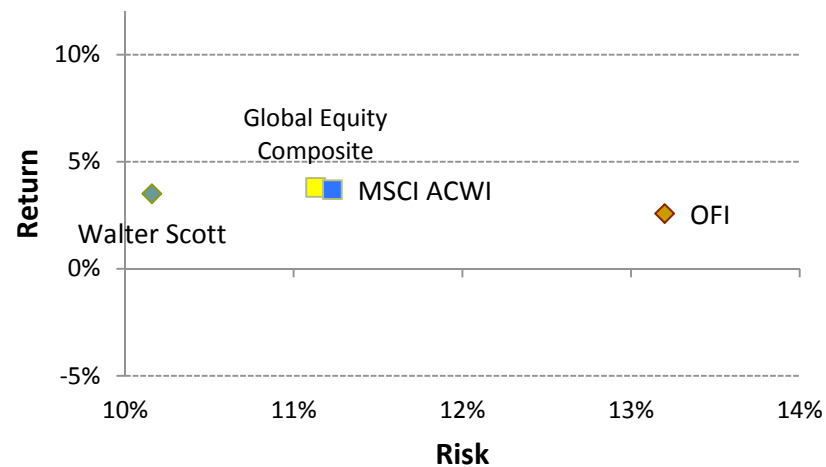
Global Public Equity: Composite Overview

Manager	Benchmark	Descriptions
OFI	MSCI ACWI	Growth
Walter Scott	MSCI ACWI	Growth

Global Equity Managers



3-Year Risk/Return



*May not add to 100% due to rounding.

Dallas Police & Fire Pension

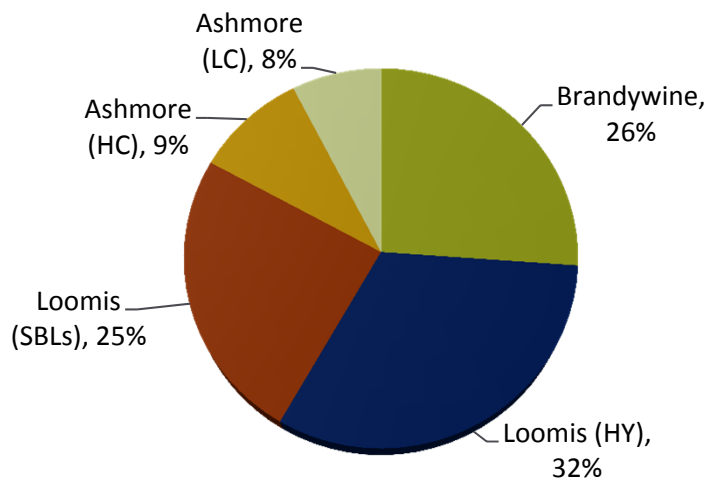
DPFP

	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Return (%)	Since
DPFP	2,148,175,753	100.0	-0.1	3.2	-2.1	1.6	2.6	1.4	6.1	Jun-96
Policy Index			0.3	9.6	7.1	9.2	8.7	5.6	--	Jun-96
InvestorForce Public DB Net Rank			89	99	99	99	99	99	71	Jun-96
Global Equity	155,565,752	7.2	-0.1	7.1	3.8	10.0	8.3	3.9	4.9	Jul-06
MSCI ACWI Gross			1.3	8.5	3.7	10.0	7.8	4.1	5.2	Jul-06
eA All Global Equity Net Rank			50	40	41	53	52	46	47	Jul-06
Eagle Asset	278,462	0.0	8.9	26.6	11.0	15.7	14.6	9.0	10.2	Feb-05
Russell 2000			8.8	21.3	6.7	14.5	13.2	7.1	8.2	Feb-05
eA US Small Cap Equity Net Rank			49	21	5	27	25	19	10	Feb-05
Pyramis	172,470	0.0	-1.1	2.6	2.3	9.5	7.2	3.1	7.6	Mar-02
MSCI ACWI Gross			1.3	8.5	3.7	10.0	7.8	4.1	6.8	Mar-02
eA All Global Equity Net Rank			58	77	65	63	68	68	44	Mar-02
Walter Scott	78,911,118	3.7	-1.2	6.5	3.5	9.7	7.9	--	7.8	Dec-09
MSCI ACWI Gross			1.3	8.5	3.7	10.0	7.8	4.1	8.1	Dec-09
eA All Global Equity Net Rank			59	45	45	58	62	--	65	Dec-09
OFI	75,973,770	3.5	1.0	1.3	2.6	10.9	8.6	--	3.9	Oct-07
MSCI ACWI Gross			1.3	8.5	3.7	10.0	7.8	4.1	3.0	Oct-07
eA All Global Equity Net Rank			39	83	57	32	45	--	39	Oct-07
RREEF Global REIT	115,972	0.0	-5.8	3.5	6.7	10.2	9.6	1.4	12.2	Feb-99
FTSE EPRA/NAREIT Global			-5.8	3.9	5.9	9.8	8.8	2.0	9.2	Feb-99
eA Global REIT Net Rank			80	58	64	81	43	99	1	Feb-99
Mitchell Group	62,026	0.0	5.9	35.9	-3.5	1.5	3.7	5.8	10.3	Oct-01
Dow Jones Equal Wtd. Oil & Gas			6.8	25.6	-13.1	-3.2	-2.4	-4.1	4.6	Oct-01
eA All Global Equity Net Rank			7	2	96	97	93	23	14	Oct-01
Sustainable Asset Management	51,935	0.0	-4.4	9.4	4.2	12.5	7.4	--	10.5	Nov-08
MSCI ACWI Gross			1.3	8.5	3.7	10.0	7.8	4.1	10.3	Nov-08
eA All Global Equity Net Rank			86	25	36	13	67	--	47	Nov-08

Global Fixed Income: Composite Overview

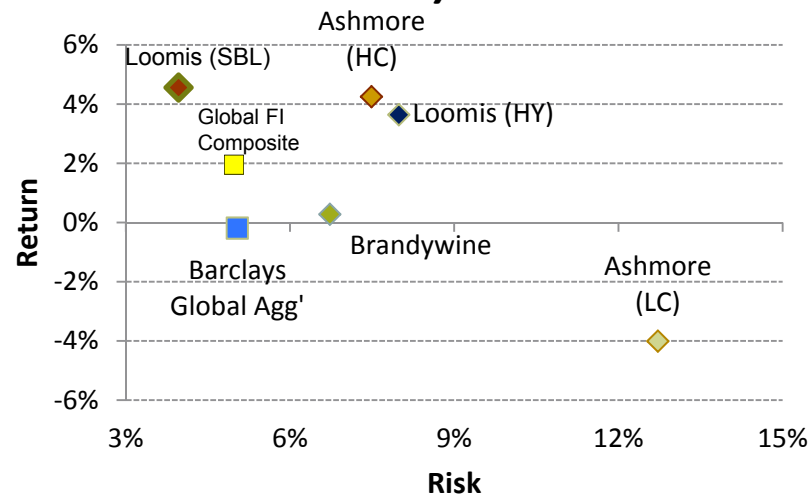
Manager	Benchmark	Asset Class	Descriptions
Brandywine	Barclays Global Aggregate	Global Bonds	Aggressive, but diversified
Loomis (HY)	70% MLHY/30% JPM EMBI+	High Yield	Aggressive
Loomis (BLs)	S&P/LSTA US Levered	Bank Loans	Bank Loans (min 65% of portfolio)
Ashmore (Hard Currency)	JPM EMBI Global Diversified	Emerging Market Debt	Diversified, Hard Currency
Ashmore (Local Currency)	JPM EMBI Global Diversified	Emerging Market Debt	Diversified, Local Currency

Global Fixed Income Managers



*May not add to 100% due to rounding.

3-Year Risk/Return



Dallas Police & Fire Pension

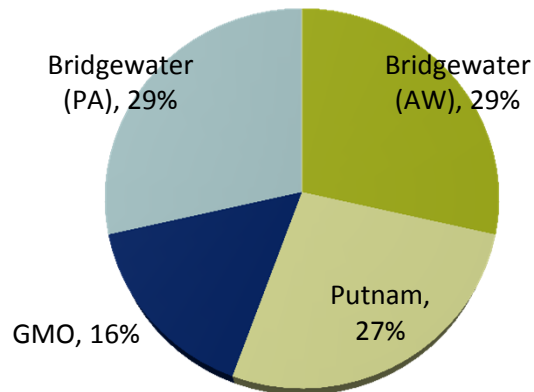
DPFP

	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Return (%)	Since
DPFP	2,148,175,753	100.0	-0.1	3.2	-2.1	1.6	2.6	1.4	6.1	Jun-96
Policy Index			0.3	9.6	7.1	9.2	8.7	5.6	--	Jun-96
InvestorForce Public DB Net Rank			89	99	99	99	99	99	71	Jun-96
Public Fixed Income	227,517,269	10.6	-0.4	13.5	2.0	4.8	--	--	5.2	Dec-10
BBgBarc Global Aggregate TR			-7.1	2.1	-0.2	0.2	1.7	3.3	1.1	Dec-10
Brandywine	59,301,063	2.8	-5.9	3.8	0.3	2.0	4.4	5.3	4.6	Oct-04
BBgBarc Global Aggregate TR			-7.1	2.1	-0.2	0.2	1.7	3.3	3.4	Oct-04
eA All Global Fixed Inc Net Rank			75	62	69	64	41	32	53	Oct-04
Loomis Sayles	73,448,240	3.4	3.0	21.2	3.6	7.9	8.3	7.6	9.8	Oct-98
70% BofA ML High Yield / 30% JPM EMBI Plus			-0.3	15.1	5.1	6.7	7.6	7.1	8.1	Oct-98
eA Global High Yield Fixed Inc Net Rank			3	1	62	9	7	1	1	Oct-98
W.R. Huff High Yield	79,872	0.0	-2.1	11.2	-2.2	3.2	7.7	6.2	6.3	Jun-96
Citi High Yield Market Index			1.9	17.8	4.3	6.9	7.8	7.1	7.2	Jun-96
eA US High Yield Fixed Inc Net Rank			99	74	99	99	45	67	95	Jun-96
Loomis Sayles Senior Rate and Fixed Income	56,185,908	2.6	2.2	11.8	3.9	--	--	--	3.9	Jan-14
S&P/LSTA U.S. Leveraged Loan			2.3	10.2	3.6	5.1	5.3	4.6	3.6	Jan-14
eA All Global Fixed Inc Net Rank			6	14	26	--	--	--	26	Jan-14
Ashmore AEMDF	21,215,458	1.0	-1.6	14.9	4.3	4.6	6.3	6.4	8.2	Feb-05
JP Morgan EMBI Global Diversified			-4.0	10.2	6.2	5.9	7.0	6.9	7.4	Feb-05
eA All Emg Mkts Fixed Inc Net Rank			15	4	39	40	33	39	22	Feb-05
Ashmore AEMLCB	17,286,727	0.8	-5.2	12.5	-4.0	-1.4	--	--	-1.7	Mar-11
JP Morgan GBI EM Global Diversified TR USD			-6.1	9.9	-4.1	-1.3	0.8	3.8	-1.4	Mar-11
eA All Emg Mkts Fixed Inc Net Rank			76	20	84	82	--	--	82	Mar-11

Global Asset Allocation: Composite Overview

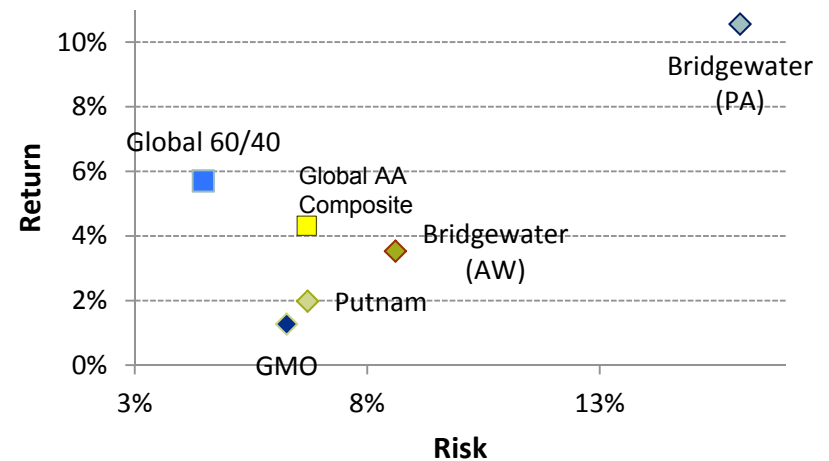
Manager	Benchmark	Asset Class	Descriptions
Bridgewater (All Weather)	Global 60/40	Risk Parity	Passive approach
Bridgewater (Pure Alpha)	HFRX Absolute Return	Absolute Return	Global Macro Hedge Fund
GMO	Global 60/40	GTAA	Unconstrained
Putnam	Global 60/40	Risk Parity	Active approach

GAA Managers



*May not add to 100% due to rounding.

3-Year Risk/Return



Dallas Police & Fire Pension

DPFP

	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Return (%)	Since
DPFP	2,148,175,753	100.0	-0.1	3.2	-2.1	1.6	2.6	1.4	6.1	Jun-96
<i>Policy Index</i>			0.3	9.6	7.1	9.2	8.7	5.6	--	Jun-96
<i>InvestorForce Public DB Net Rank</i>			89	99	99	99	99	99	71	Jun-96
Total GAA	133,973,442	6.2	3.7	13.0	4.2	5.1	6.3	--	3.7	Jul-07
<i>Total Asset Allocation Policy Index</i>			-1.8	4.6	5.3	5.9	6.3	--	6.5	Jul-07
<i>eA Global Balanced Net Rank</i>			1	6	44	87	61	--	71	Jul-07
Bridgewater All Weather	39,669,725	1.8	-2.2	11.7	3.5	4.3	8.6	--	5.4	Sep-07
<i>Global 60/40</i>			-2.2	5.7	5.9	6.0	6.0	--	6.3	Sep-07
<i>eA Global TAA Net Rank</i>			73	4	9	51	1	--	6	Sep-07
Putnam	35,449,623	1.7	-0.2	9.1	2.0	4.3	5.7	--	5.6	Dec-09
<i>Global 60/40</i>			-2.2	5.7	5.7	6.1	6.5	--	6.5	Dec-09
<i>eA Global Balanced Net Rank</i>			53	46	85	99	72	--	88	Dec-09
GMO	20,635,366	1.0	-1.5	4.6	1.3	4.8	4.8	--	4.0	Sep-07
<i>Global 60/40</i>			-2.2	5.7	5.7	6.1	6.5	--	6.6	Sep-07
<i>eA Global TAA Net Rank</i>			65	39	53	38	40	--	48	Sep-07
Bridgewater Pure Alpha	38,218,728	1.8	21.8	12.7	10.6	8.3	--	--	8.2	Aug-11
<i>HFRX Absolute Return</i>			-0.3	0.3	4.1	4.9	--	--	5.0	Aug-11
<i>eA Global TAA Net Rank</i>			1	3	1	5	--	--	1	Aug-11

Policy Compliance Test: Traditional Managers

3 Year Rolling Excess Return Violations:

Manager	Return Rank	NEPC Recommendation
Global Equity		
OFI	57	HOLD
Public Fixed Income		
Brandywine	69	HOLD
Loomis Sayles	62	HOLD
Ashmore AEMLCB	84	N/A
GAA		
Putnam	85	N/A
GMO	53	N/A

3 Year Rolling Risk-Adjusted Excess Return Violations:

Manager	Sharpe Ratio Rank	NEPC Recommendation
Global Equity		
OFI	65	HOLD
Public Fixed Income		
Brandywine	69	HOLD
Loomis Sayles HY	73	HOLD
Ashmore AEMLCB	82	N/A
GAA		
Putnam	84	N/A
GMO	52	N/A

Qualitative Concerns:

Manager	NEPC Status
Putnam	Watch

Note: 'N/A' denotes that the Board has voted to terminate the manager in question. However, market exposure will be maintained with managers that have previously been approved for liquidation and to rebalance if additional cash is needed.

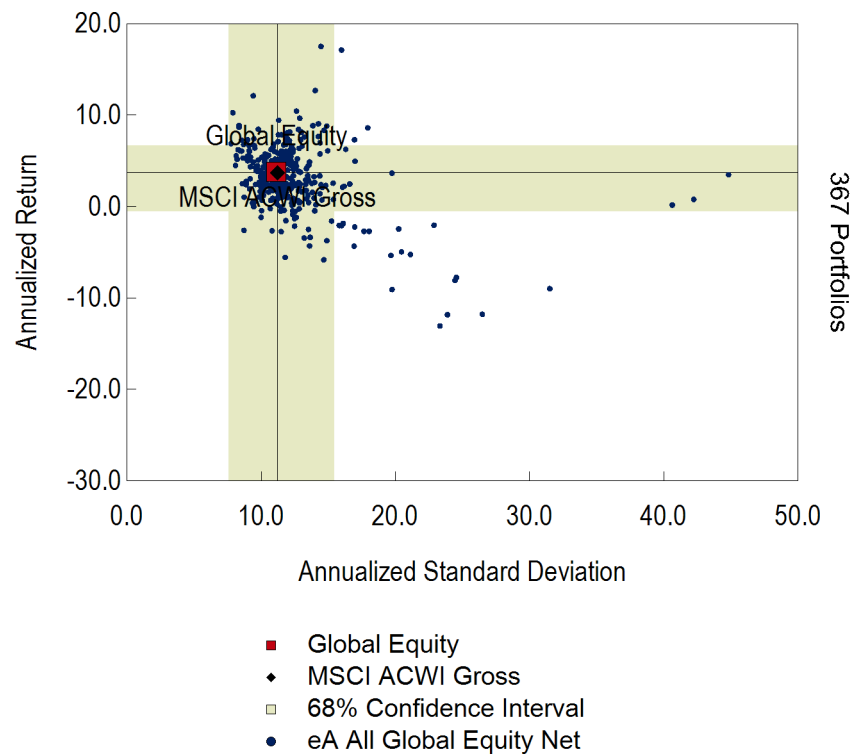
Footnotes

1. **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.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **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.
8. **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.
9. **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.
10. **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.
11. **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.
12. **Global Infrastructure composite** was included in the Private Markets composite history until 6/30/2012.
13. **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.
14. **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.
15. **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.
16. **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.
17. **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.
18. **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.
19. **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.
20. **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.
21. **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.

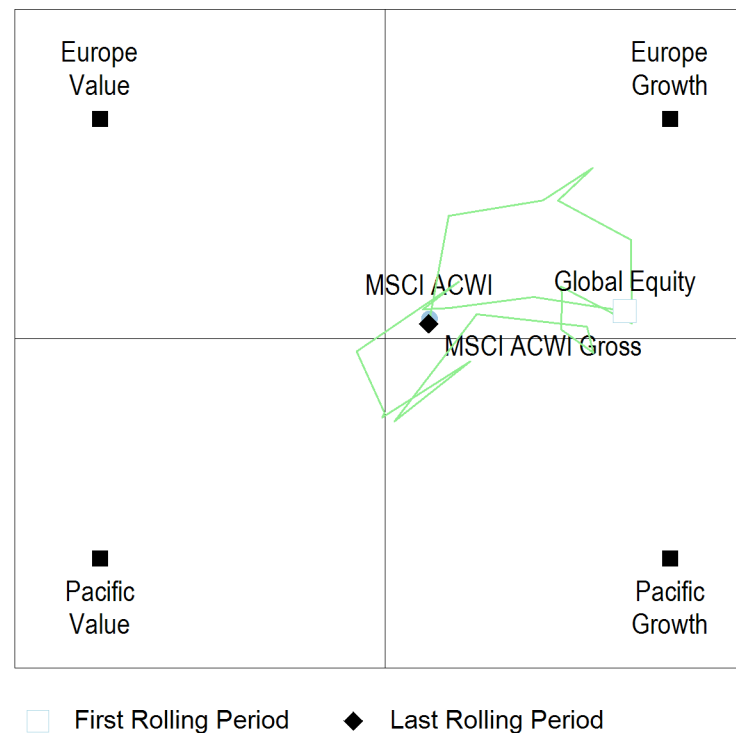
Portfolio Review: Global Equity



3 Year Risk Return



3 Year Style Analysis



Global Equity

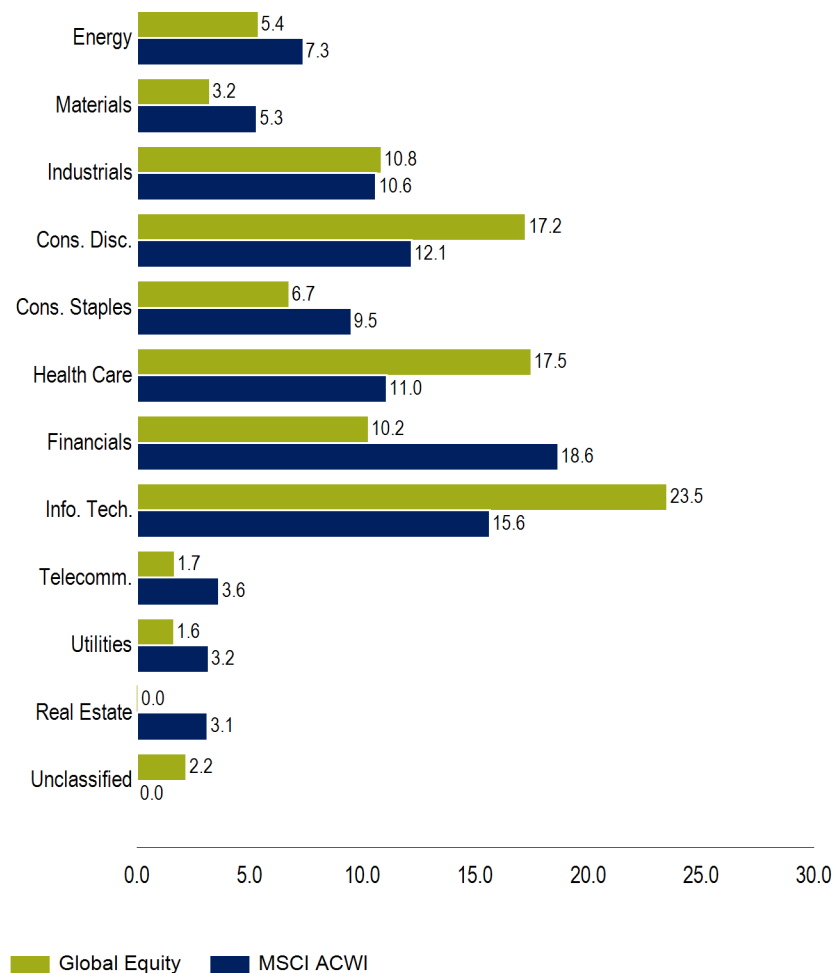
Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	281	2,486
Weighted Avg. Market Cap. (\$B)	79.2	93.9
Median Market Cap. (\$B)	19.6	8.4
Price To Earnings	24.9	21.5
Price To Book	5.1	3.2
Price To Sales	3.9	2.5
Return on Equity (%)	21.5	15.3
Yield (%)	1.9	2.5
Beta	1.0	1.0
R-Squared	1.0	1.0

Regional Allocation

	Global Equity	MSCI ACWI
Region Weighting		
North America ex U.S.	1.27	3.30
United States	49.39	54.18
Europe Ex U.K.	25.91	14.64
United Kingdom	4.86	5.61
Pacific Basin Ex Japan	4.66	4.97
Japan	11.61	7.84
Emerging Markets	2.30	9.17
Other	0.00	0.28

Equity Sector Allocation



Global Equity

Top Ten Holdings

LVMH	2.3%
ALPHABET 'C'	2.3%
COLGATE-PALM.	2.2%
JP MORGAN U S GOVT AGENCY SHARESMONTHLY VARIABLE 12/31/2049	2.2%
WALT DISNEY	2.1%
KEYENCE	2.1%
INDITEX	2.0%
ADOBE SYSTEMS	1.9%
NESTLE 'R'	1.5%
MCGRAW HILL FINANCIAL	1.5%

Equity Sector Attribution

	Attribution Effects				Returns			Sector Weights			
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	-0.3%	0.4%	-0.2%	4.5%	7.7%	13.4%	6.8%			
Materials	-0.1%	-0.1%	-0.1%	0.1%	0.1%	3.0%	2.9%	5.2%			
Industrials	-0.2%	0.0%	0.0%	-0.2%	0.9%	1.8%	12.4%	10.5%			
Consumer Discretionary	0.3%	0.4%	0.0%	-0.1%	3.5%	0.9%	12.0%	12.2%			
Consumer Staples	0.4%	-0.3%	0.4%	0.3%	-9.4%	-5.9%	4.7%	10.3%			
Health Care	-0.3%	-0.1%	-0.2%	0.0%	-5.5%	-5.3%	14.6%	11.7%			
Financials	-0.5%	0.5%	-1.1%	0.1%	14.9%	12.2%	7.5%	17.0%			
Information Technology	0.0%	0.3%	-0.1%	-0.2%	-0.1%	-0.8%	17.7%	15.8%			
Telecommunication Services	0.0%	-0.3%	0.1%	0.3%	-11.3%	-2.2%	1.4%	3.8%			
Utilities	-0.2%	-0.3%	0.0%	0.0%	-11.1%	-3.2%	3.2%	3.3%			
Real Estate	-0.6%	0.0%	-0.5%	-0.1%	-5.3%	-6.1%	10.2%	3.4%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-1.3%	=	-0.2%	+	-1.1%	+	0.0%	0.0%	1.3%	99.9%	100.0%

Top Positive Contributors

	Relative Contribution %	Return %
LVMH	0.1%	13.1%
GOLDMAN SACHS GP.	0.1%	48.9%
SOCIETE GENERALE	0.1%	42.5%
SUNCOR ENERGY	0.1%	18.9%
WALT DISNEY	0.1%	13.1%
AUTOMATIC DATA PROC.	0.1%	17.2%
BAKER HUGHES	0.1%	29.1%
COGNIZANT TECH.SLTN.'A'	0.1%	17.4%
CITIGROUP	0.1%	26.2%
SHIN-ETSU CHEMICAL	0.1%	12.4%

Top Negative Contributors

	Relative Contribution %	Return %
MCGRAW HILL FINANCIAL	-0.1%	-14.8%
COLGATE-PALM.	-0.1%	-11.2%
VEOLIA ENVIRONNEMENT	-0.1%	-25.9%
INDITEX	-0.1%	-7.1%
INTUITIVE SURGICAL	-0.1%	-12.5%
ZIMMER BIOMET HDG.	-0.1%	-20.4%
SGS 'N'	-0.1%	-9.1%
CERNER	-0.1%	-23.3%
TWITTER	-0.1%	-29.3%
KEYENCE	-0.1%	-5.2%

Global Equity

Country Allocation

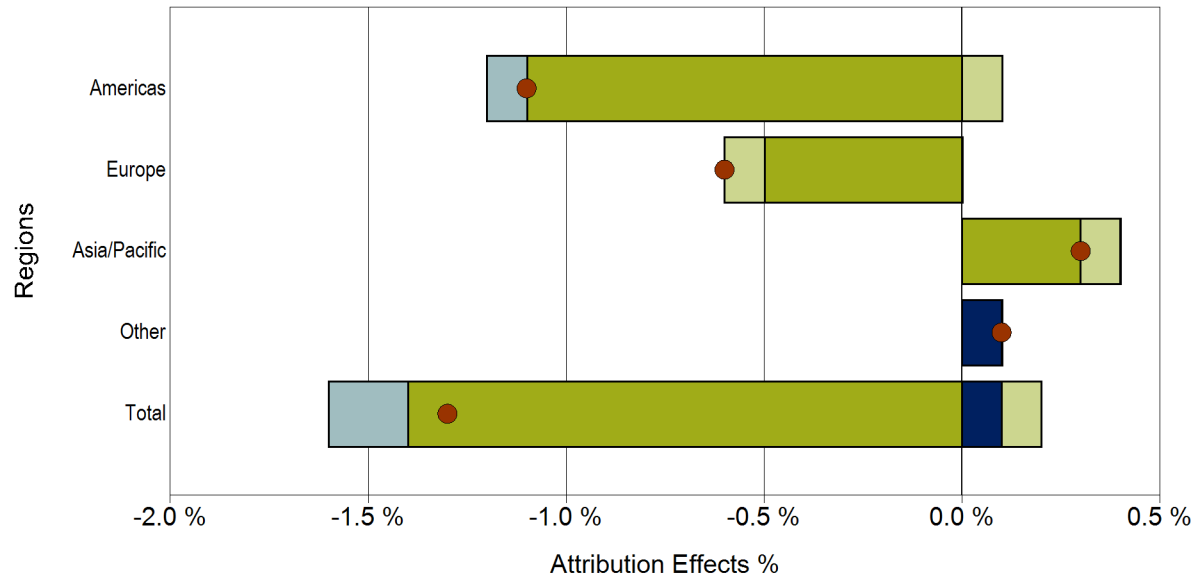
	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
Americas				
Brazil*	0.1%	0.8%	11.5%	2.3%
Canada	1.2%	3.2%	9.7%	3.4%
Mexico*	0.0%	0.4%	-24.8%	-7.8%
United States	58.7%	52.4%	1.4%	3.6%
Total-Americas	60.1%	57.1%	1.6%	3.4%
Europe				
Austria	0.2%	0.1%	-8.8%	6.5%
Denmark	0.7%	0.6%	-10.3%	-8.8%
Finland	0.2%	0.3%	-2.6%	-4.4%
France	5.4%	3.2%	4.0%	3.1%
Germany	3.5%	3.0%	-0.6%	1.5%
Ireland	0.1%	0.2%	-14.2%	0.1%
Italy	0.4%	0.6%	5.4%	10.8%
Luxembourg	0.1%	0.0%	-15.3%	1.3%
Netherlands	0.6%	1.1%	6.0%	-2.0%
Portugal	0.0%	0.0%	-9.1%	-3.0%
Spain	1.8%	1.0%	-2.8%	2.2%
Sweden	1.3%	0.9%	-5.8%	-0.8%
Switzerland	5.1%	3.0%	-4.7%	-3.9%
United Kingdom	4.3%	6.1%	-6.7%	-0.8%
Total-Europe	23.5%	21.5%	-2.2%	0.1%

Country Allocation

Versus MSCI ACWI Gross - Quarter Ending December 31, 2016

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
AsiaPacific				
Australia	1.2%	2.5%	-9.0%	0.8%
China*	0.4%	3.0%	-2.5%	-6.9%
Hong Kong	3.6%	1.2%	-8.2%	-9.0%
India*	0.4%	0.9%	0.3%	-7.8%
Japan	9.6%	8.0%	0.4%	-0.1%
Korea*	0.1%	1.6%	-15.6%	-6.9%
Philippines*	0.1%	0.1%	-5.5%	-12.8%
Singapore	0.3%	0.4%	-14.3%	-3.6%
Taiwan*	0.7%	1.3%	-6.0%	-2.2%
Total-AsiaPacific	16.5%	20.1%	-3.0%	-3.0%
Totals				
Developed	98.2%	88.9%	0.0%	2.0%
Emerging*	1.8%	11.1%	-4.3%	-4.2%

Global Equity Performance Attribution vs. MSCI ACWI Gross



■ Selection Effect
 ■ Allocation Effect
 ■ Currency Effect
 ■ Interaction Effect
 ● Total Effects

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Totals									
Americas	1.6%	3.4%	60.1%	57.1%	-1.1%	0.0%	0.1%	-0.1%	-1.1%
Europe	-2.2%	0.1%	23.5%	21.5%	-0.5%	0.0%	-0.1%	0.0%	-0.6%
Asia/Pacific	-3.0%	-3.0%	16.5%	20.1%	0.3%	0.0%	0.1%	0.0%	0.3%
Other	--	-5.5%	0.0%	1.4%	--	0.1%	0.0%	--	0.1%
Cash	--	--	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Total	0.0%	1.3%	100.0%	100.0%	-1.4%	0.1%	0.1%	-0.2%	-1.3%
Totals									
Developed	0.0%	2.0%	98.2%	88.9%	-1.8%	0.1%	-0.2%	-0.2%	-2.1%
Emerging*	-4.3%	-4.2%	1.8%	11.1%	-0.2%	0.5%	0.3%	0.2%	0.8%

- **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.

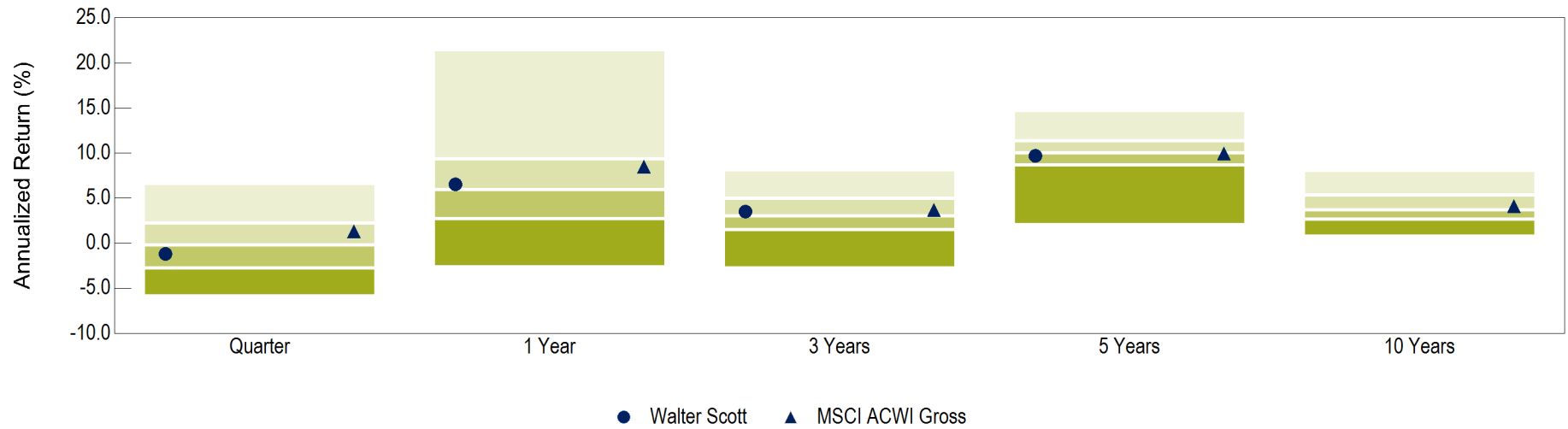
- **Investment Strategy Commentary**

- 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 not 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.

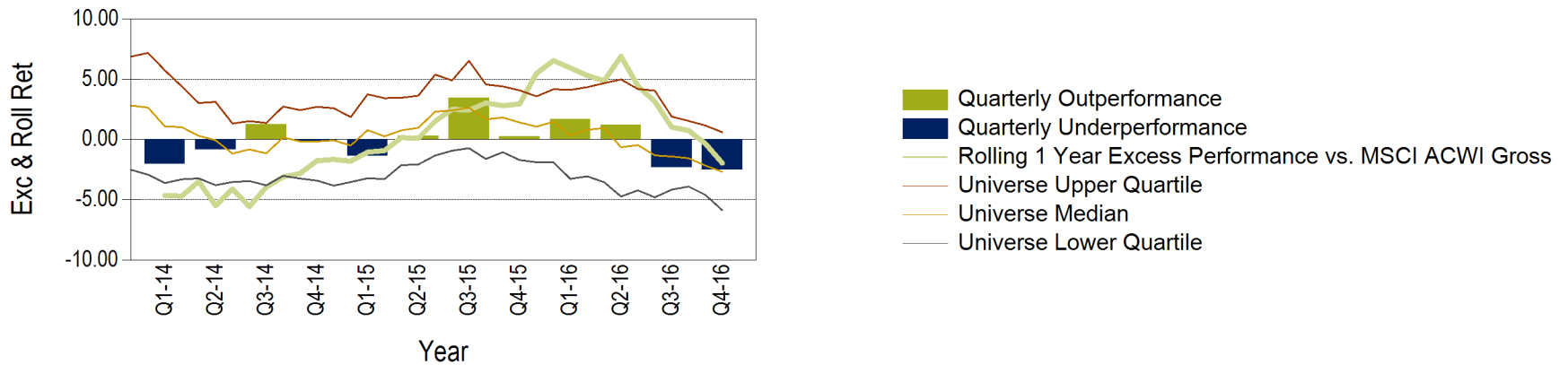
- **Due Diligence Notes**

- On February 8, 2013, Walter Scott announced that Ian Clark stepped down as main board Executive Director. Mr. Clark still maintained his title of Founder and remained involved with the firm, although not in an active investment role. With Mr. Clark stepping down, the total board size moved from 11 to 10 individuals. There were no plans to replace him on the board, but thoughts were that they would do so over the next 12-18 months.
- Effective December 31, 2013, Mr. Clark formally ended his employment.
- Walter Scott has been planning for succession and the founders relinquished stock coverage and management of the research process a long time ago.
- On June 13, 2013, Dr. Kenneth Lyall passed away. Dr. Lyall held various roles throughout the development of Walter Scott & Partners Limited and more recently as our Chairman. Dr. Lyall joined the firm in its first year in 1983 and played a major role in the firm's growth from those early years. In an investment career with Walter Scott & Partners Limited spanning 30 years, Ken contributed heavily to its development and investment success.

eA All Global Equity Net Accounts

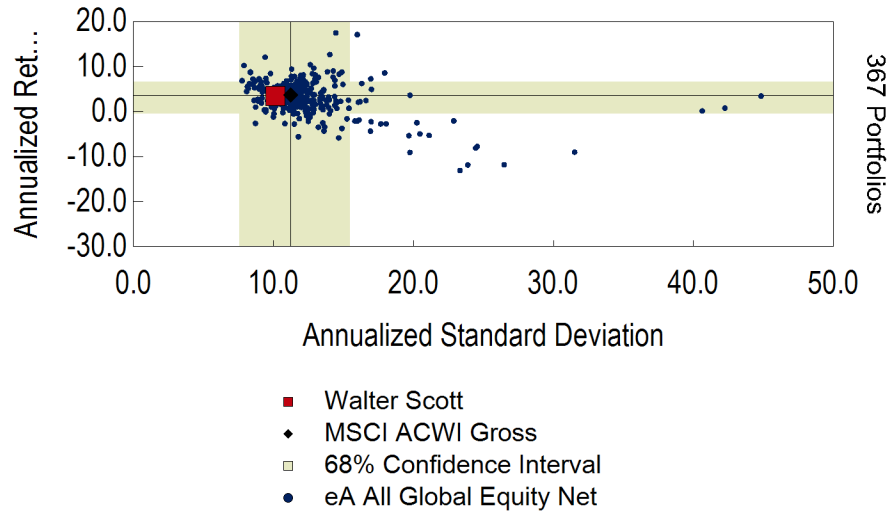


Annualized Excess Performance

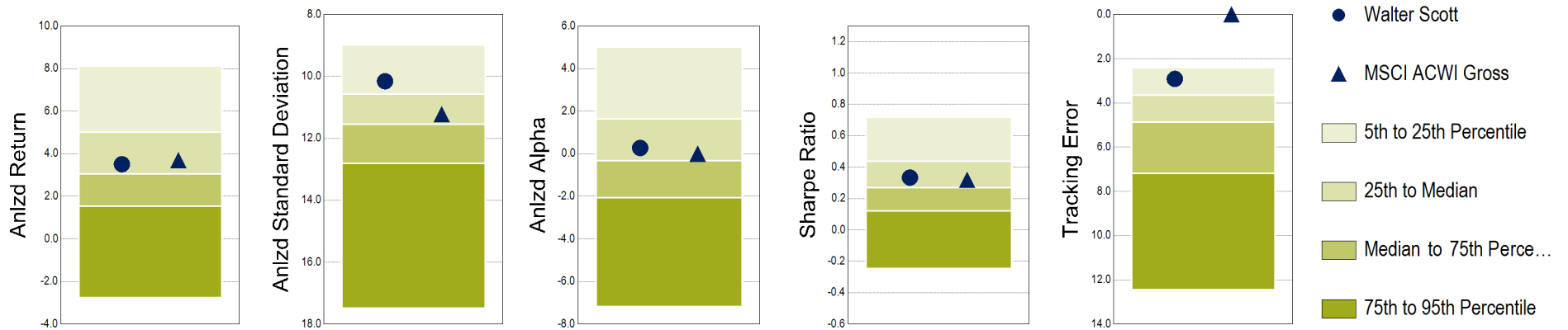
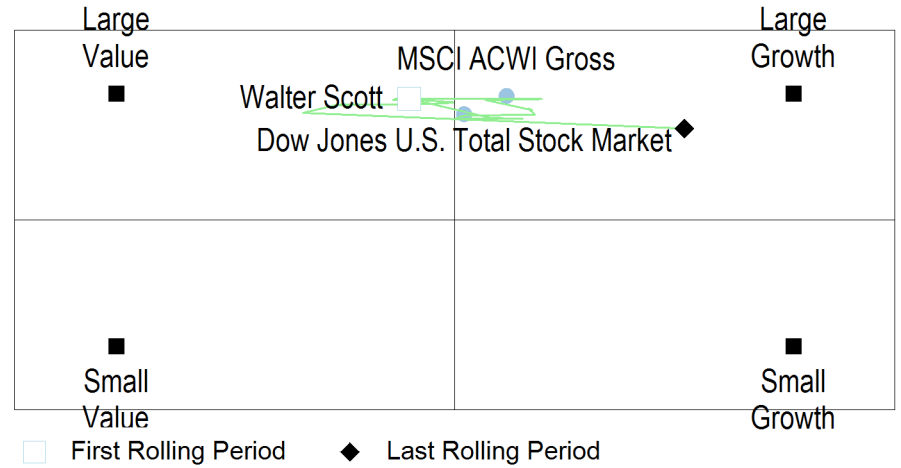


Returns are net of fees

3 Year Risk Return



3 Year Style Map



Returns are net of fees

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	57	2,486
Weighted Avg. Market Cap. (\$B)	88.2	93.9
Median Market Cap. (\$B)	49.0	8.4
Price To Earnings	25.8	21.5
Price To Book	6.1	3.2
Price To Sales	4.0	2.5
Return on Equity (%)	23.7	15.3
Yield (%)	2.0	2.5
Beta		1.0
R-Squared		1.0

Equity Sector Attribution

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	-0.1%	0.1%	0.1%	8.1%	7.7%	9.2%	6.8%			
Materials	-0.1%	0.1%	0.0%	-0.2%	2.0%	3.0%	5.5%	5.2%			
Industrials	-0.2%	0.2%	0.0%	-0.4%	-1.7%	1.8%	7.8%	10.5%			
Consumer Discretionary	0.2%	0.4%	0.0%	-0.2%	3.0%	0.9%	18.5%	12.2%			
Consumer Staples	0.0%	-0.2%	0.1%	0.0%	-8.4%	-5.9%	8.4%	10.3%			
Health Care	-1.5%	-0.3%	-0.7%	-0.5%	-7.9%	-5.3%	21.7%	11.7%			
Financials	-1.3%	--	-1.9%	--	--	12.2%	0.0%	17.0%			
Information Technology	0.2%	0.4%	-0.2%	0.1%	1.9%	-0.8%	23.2%	15.8%			
Telecommunication Services	-0.1%	-0.5%	0.0%	0.4%	-12.4%	-2.2%	2.2%	3.8%			
Utilities	-0.2%	-0.2%	0.0%	0.1%	-8.0%	-3.2%	3.7%	3.3%			
Real Estate	0.4%	--	0.3%	--	--	-6.1%	0.0%	3.4%			
Cash	0.0%	0.0%	0.0%	0.0%	0.1%	--	0.0%	0.0%			
Portfolio	-2.6%	=	-0.2%	+	-2.4%	+	0.0%	-1.3%	1.3%	100.0%	100.0%

Top Positive Contributors

	Relative Contribution %	Return %
SUNCOR ENERGY	0.3%	18.9%
AUTOMATIC DATA PROC.	0.3%	17.2%
COGNIZANT TECH.SLTN.'A'	0.2%	17.4%
SHIN-ETSU CHEMICAL	0.2%	12.4%
LVMH	0.2%	13.1%
WALT DISNEY	0.2%	13.1%
DENSO	0.2%	9.9%
SCHLUMBERGER	0.1%	7.4%
EOG RES.	0.1%	4.7%
STRYKER	0.1%	3.3%

Top Negative Contributors

	Relative Contribution %	Return %
INTUITIVE SURGICAL	-0.3%	-12.5%
CERNER	-0.2%	-23.3%
CHINA MOBILE	-0.2%	-12.4%
ESSILOR INTL.	-0.2%	-12.2%
CSL	-0.2%	-11.2%
COLGATE-PALM.	-0.2%	-11.2%
SGS 'N'	-0.2%	-9.1%
RECKITT BENCKISER GROUP	-0.2%	-9.8%
NOVO NORDISK 'B'	-0.2%	-13.1%
CLP HOLDINGS	-0.1%	-10.4%

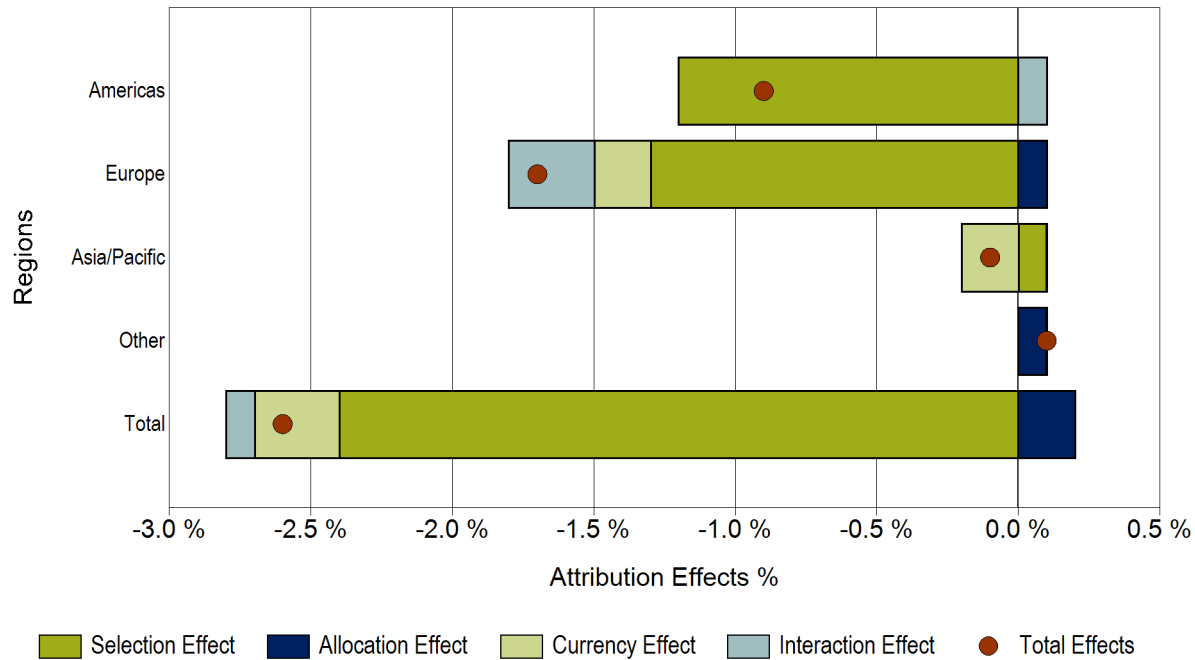
Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
Americas				
Canada	2.2%	3.2%	18.9%	3.4%
United States	48.6%	52.4%	0.7%	3.6%
Total-Americas	50.9%	57.1%	1.5%	3.4%
Europe				
Denmark	1.7%	0.6%	-13.1%	-8.8%
France	6.1%	3.2%	-0.7%	3.1%
Spain	2.1%	1.0%	-7.1%	2.2%
Sweden	1.7%	0.9%	-1.3%	-0.8%
Switzerland	10.2%	3.0%	-7.4%	-3.9%
United Kingdom	4.3%	6.1%	-7.3%	-0.8%
Total-Europe	26.0%	21.5%	-5.7%	0.1%

Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
AsiaPacific				
Australia	2.1%	2.5%	-11.2%	0.8%
Hong Kong	7.7%	1.2%	-7.1%	-9.0%
Japan	11.0%	8.0%	3.4%	-0.1%
Taiwan*	2.3%	1.3%	-6.0%	-2.2%
Total-AsiaPacific	23.1%	20.1%	-2.4%	-3.0%
Totals				
Developed	97.7%	88.9%	-1.2%	2.0%
Emerging*	2.3%	11.1%	-6.0%	-4.2%
Cash	0.0%		0.1%	

Walter Scott Performance Attribution vs. MSCI ACWI Gross



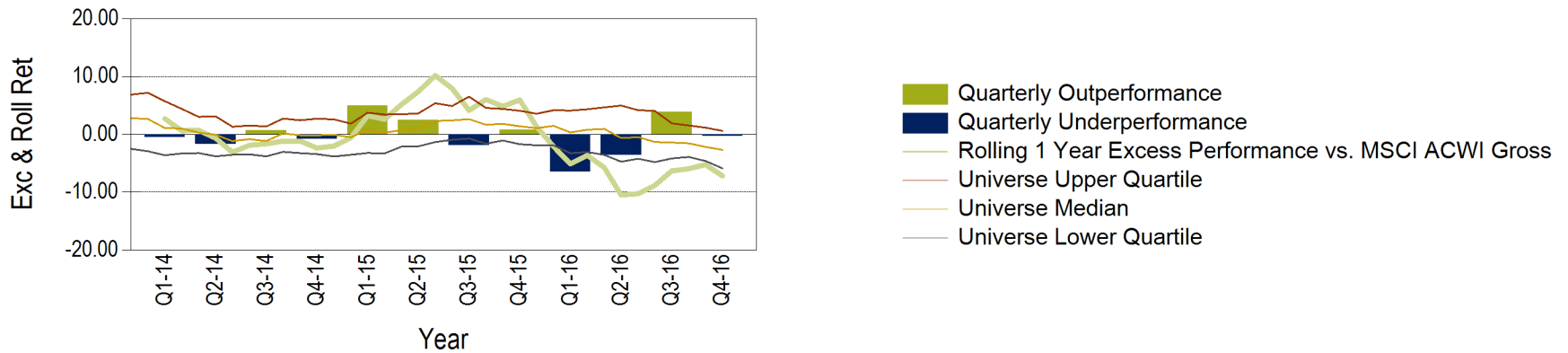
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Totals									
Americas	1.5%	3.4%	50.9%	57.1%	-1.2%	0.0%	0.0%	0.1%	-0.9%
Europe	-5.7%	0.1%	26.0%	21.5%	-1.3%	0.1%	-0.2%	-0.3%	-1.7%
Asia/Pacific	-2.4%	-3.0%	23.1%	20.1%	0.1%	0.0%	-0.2%	0.0%	-0.1%
Other	--	-5.5%	0.0%	1.4%	--	0.1%	0.0%	--	0.1%
Cash	0.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	-1.3%	1.3%	100.0%	100.0%	-2.4%	0.2%	-0.3%	-0.1%	-2.6%
Totals									
Developed	-1.2%	2.0%	97.7%	88.9%	-2.5%	0.1%	-0.6%	-0.2%	-3.3%
Emerging*	-6.0%	-4.2%	2.3%	11.1%	-0.5%	0.5%	0.3%	0.4%	0.7%
Cash	0.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

- **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.

eA All Global Equity Net Accounts

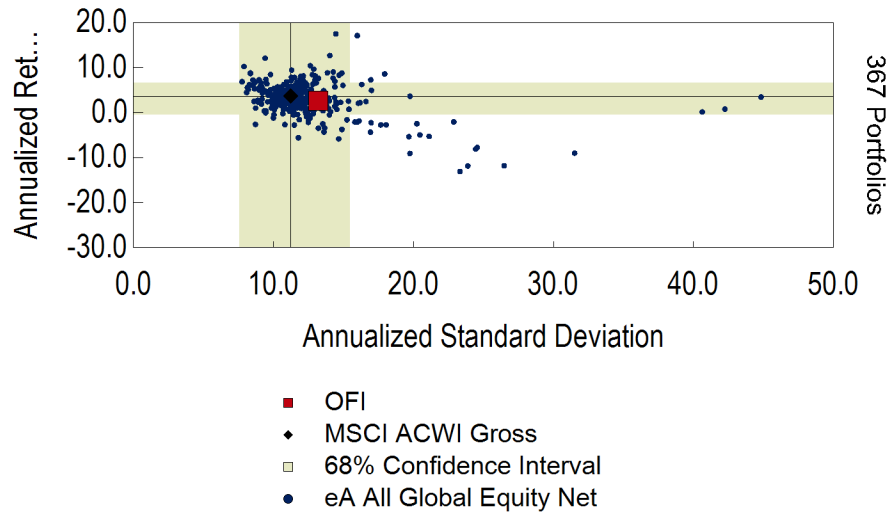


Annualized Excess Performance

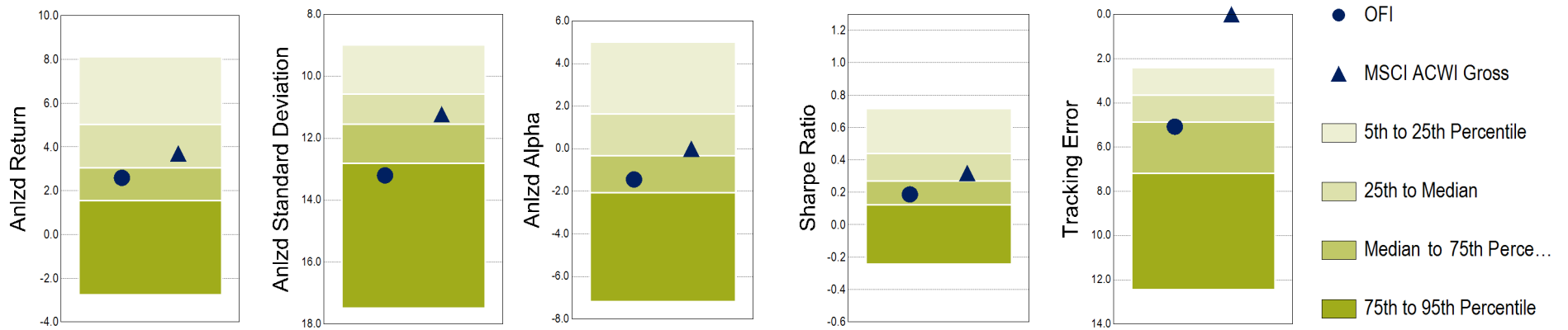
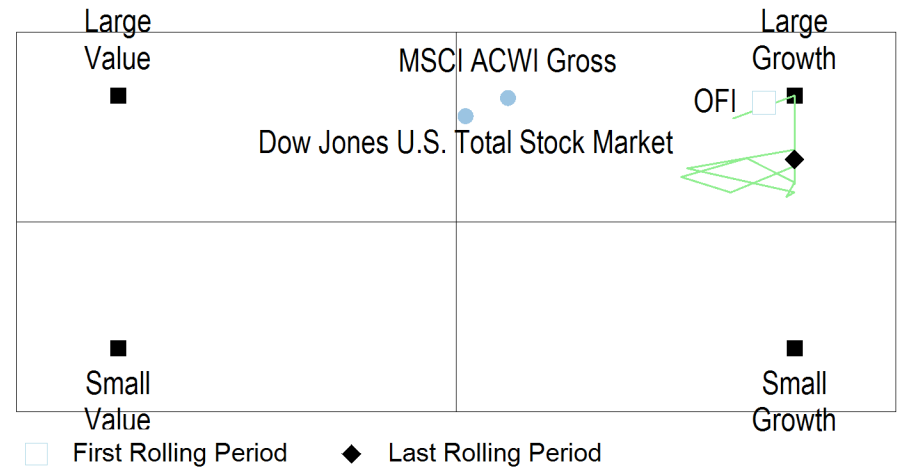


Returns are net of fees

3 Year Risk Return



3 Year Style Map



Returns are net of fees

Characteristics

	Portfolio	MSCI World
Number of Holdings	82	1,654
Weighted Avg. Market Cap. (\$B)	70.1	99.2
Median Market Cap. (\$B)	29.8	10.7
Price To Earnings	24.1	21.9
Price To Book	3.9	3.3
Price To Sales	3.7	2.5
Return on Equity (%)	19.0	15.2
Yield (%)	1.8	2.4
Beta		1.0
R-Squared		1.0

Equity Sector Attribution

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.7%	-0.2%	-0.5%	12.7%	7.6%	1.6%	6.8%			
Materials	0.0%	-0.2%	-0.1%	0.3%	-2.9%	2.9%	1.1%	5.0%			
Industrials	-0.1%	0.1%	0.0%	-0.3%	1.7%	2.3%	13.0%	11.1%			
Consumer Discretionary	0.4%	0.5%	0.0%	-0.2%	4.9%	2.0%	15.3%	12.4%			
Consumer Staples	0.2%	-0.7%	0.4%	0.5%	-11.7%	-5.4%	5.6%	10.6%			
Health Care	0.2%	0.2%	-0.2%	0.1%	-2.4%	-5.2%	15.5%	12.8%			
Financials	-0.2%	-0.3%	0.4%	-0.3%	12.0%	14.5%	19.3%	16.1%			
Information Technology	-1.6%	-0.1%	-0.4%	-1.1%	-3.4%	0.4%	26.7%	14.8%			
Telecommunication Services	-0.2%	-0.3%	0.0%	0.0%	-17.5%	-1.3%	1.9%	3.5%			
Utilities	0.3%	0.1%	0.2%	0.0%	-4.9%	-2.8%	0.0%	3.4%			
Real Estate	0.4%	--	0.3%	--	--	-5.7%	0.0%	3.5%			
Cash	0.0%	0.0%	0.0%	0.0%	0.1%	--	0.0%	0.0%			
Portfolio	-0.8%	=	0.1%	+	0.4%	+	-1.3%	1.2%	2.0%	100.0%	100.0%

Top Positive Contributors

	Relative Contribution %	Return %
GOLDMAN SACHS GP.	0.4%	48.9%
CITIGROUP	0.4%	26.2%
SOCIETE GENERALE	0.3%	42.5%
LVMH	0.2%	13.1%
DAI-ICHI LIFE INSURANCE	0.2%	23.2%
UBS GROUP	0.2%	15.0%
ANTHEM	0.2%	15.2%
AIRBUS GROUP	0.2%	9.5%
AETNA	0.2%	7.7%
PRUDENTIAL	0.2%	13.3%

Top Negative Contributors

	Relative Contribution %	Return %
MCGRAW HILL FINANCIAL	-0.4%	-14.8%
ZIMMER BIOMET HDG.	-0.2%	-20.4%
KDDI	-0.2%	-17.5%
COLGATE-PALM.	-0.2%	-11.2%
TWITTER	-0.2%	-29.3%
UNILEVER (UK)	-0.2%	-13.6%
MACROGENICS	-0.1%	-31.7%
INDITEX	-0.1%	-7.1%
FACEBOOK CLASS A	-0.1%	-10.3%
SAP	-0.1%	-4.6%

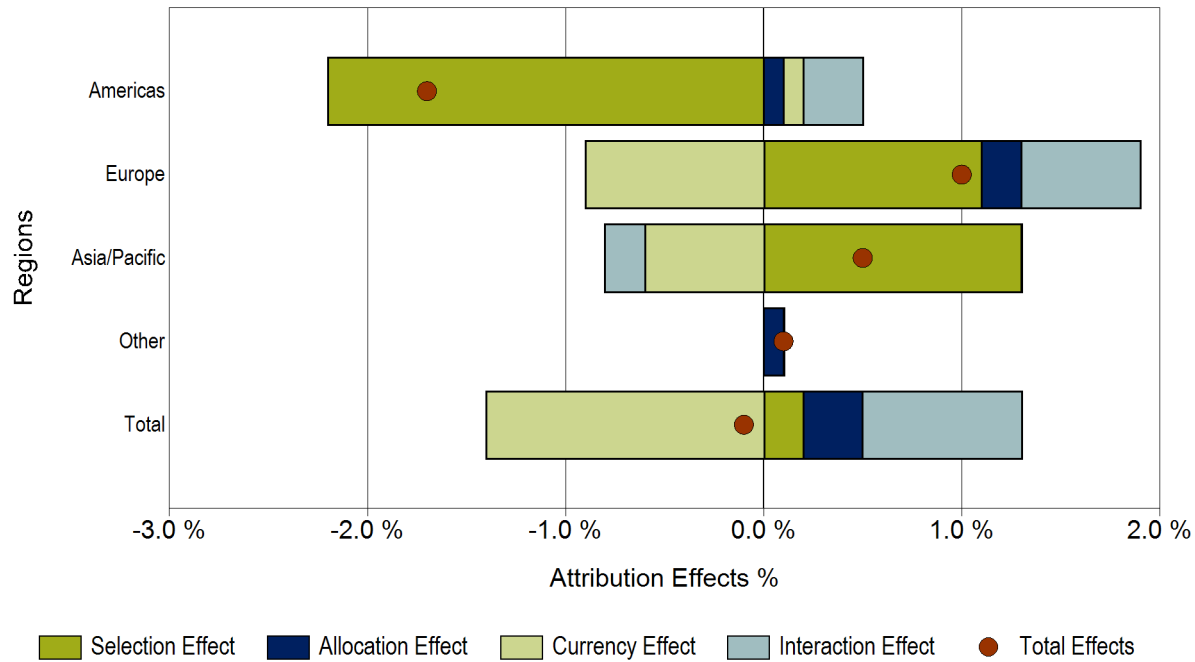
Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
Americas				
Brazil*	0.2%	0.8%	11.5%	2.3%
United States	48.5%	52.4%	-0.3%	3.6%
Total-Americas	48.7%	57.1%	-0.2%	3.4%
Europe				
Denmark	0.3%	0.6%	10.5%	-8.8%
Finland	0.0%	0.3%	-4.9%	-4.4%
France	8.3%	3.2%	15.9%	3.1%
Germany	9.5%	3.0%	2.1%	1.5%
Italy	1.3%	0.6%	5.4%	10.8%
Spain	3.7%	1.0%	-0.4%	2.2%
Sweden	1.8%	0.9%	-9.6%	-0.8%
Switzerland	4.2%	3.0%	3.6%	-3.9%
United Kingdom	4.7%	6.1%	-1.4%	-0.8%
Total-Europe	33.9%	21.5%	4.5%	0.1%

Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
AsiaPacific				
China*	1.3%	3.0%	-2.5%	-6.9%
India*	1.3%	0.9%	0.3%	-7.8%
Japan	14.8%	8.0%	-1.3%	-0.1%
Total-AsiaPacific	17.4%	20.1%	-1.3%	-3.0%
Totals				
Developed	97.2%	88.9%	1.2%	2.0%
Emerging*	2.8%	11.1%	-0.1%	-4.2%
Cash	0.0%		0.1%	

OFI Performance Attribution vs. MSCI ACWI Gross



	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Totals									
Americas	-0.2%	3.4%	48.7%	57.1%	-2.2%	0.1%	0.1%	0.3%	-1.7%
Europe	4.5%	0.1%	33.9%	21.5%	1.1%	0.2%	-0.9%	0.6%	1.0%
Asia/Pacific	-1.3%	-3.0%	17.4%	20.1%	1.3%	0.0%	-0.6%	-0.2%	0.5%
Other	--	-5.5%	0.0%	1.4%	--	0.1%	0.0%	--	0.1%
Cash	0.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	1.2%	1.3%	100.0%	100.0%	0.2%	0.3%	-1.4%	0.8%	-0.1%
Totals									
Developed	1.2%	2.0%	97.2%	88.9%	0.7%	0.1%	-1.7%	0.1%	-0.9%
Emerging*	-0.1%	-4.2%	2.8%	11.1%	0.1%	0.5%	0.3%	-0.1%	0.8%
Cash	0.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Appendix



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:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark}) / \text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})$. 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:
 $\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$
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:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}) / \text{Annualized Standard Deviation (Portfolio Returns)}$

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:
 $\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{(\# \text{ of periods per year})}$
Where X = periods portfolio return and Y = the period's benchmark return
For 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:
 $(\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate}) / \text{Portfolio Beta}$

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.

$\text{Upside Capture} = \text{Total Return}(\text{Fund Returns}) / \text{Total Returns}(\text{BM Return})$ when Period Benchmark Return is $> = 0$

$\text{Downside Capture} = \text{Total Return}(\text{Fund Returns}) / \text{Total Returns}(\text{BM Return})$ 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 Index³ - 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 Effect² - 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)³ - 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)³ - Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

Attribution³ - 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 Maturity⁴ - 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 Average¹ - 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) Attribution¹ - 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)⁴ - 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.

Correlation¹ - 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: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



Glossary of Investment Terminology

Coupon⁴ – 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 Instrument³ - 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 Deviation¹ - 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.

Duration³ - 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 Ratio¹ – 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 Bond³ - 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 Hurdle⁵ – 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 Mark⁴ - 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 Rate⁴ - 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 Effects² - 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.

Median³ - 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 Duration³ - The percentage change in the price of a fixed income security that results from a change in yield.

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

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

Net Investment Change¹ – Is the change in an investment after accounting for all Net Cash Flows.

Performance Fee⁴ - 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 Index³ - 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)⁴ - 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)³ - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

Price to Sales (P/S)⁴ - 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)⁴ - 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) Effect² - 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 rate⁵ - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

Tiered Fee¹ - 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 Effects² - 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 Deviation¹ - Standard Deviation of Positive Returns

Weighted Avg. Market Cap.⁴ - 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 (%)³ - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity³ - 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



- **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.**
- **Information in this report on market indices and security characteristics is received from sources external to NEPC. While efforts are made to ensure that this external data is accurate, NEPC cannot accept responsibility for errors that may occur.**
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NEPC, LLC

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Dallas Police & Fire Pension System

Third Quarter 2016 Private Markets Performance Review (Abbreviated Report)

March, 2017

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March, 2017

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

RE: Private Markets Strategy – 3rd Quarter 2016

Dear Trustees:

We are pleased to present the September 30, 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 0.43%. The annualized IRR of the private markets portfolio since inception was 1.19% 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 September 30, 2016:

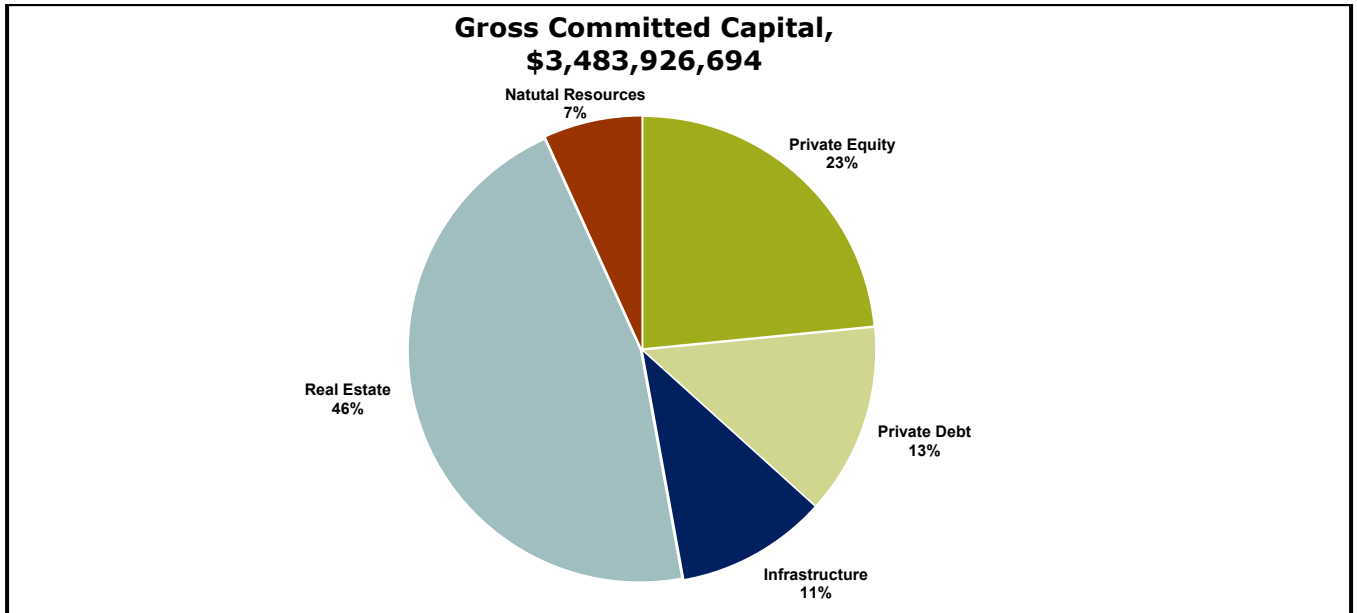
Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$3,483,926,694	\$2,945,752	\$2,998,887,485	\$1,622,008,688	\$1,559,744,102	86.08%	54.09%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 9/30/2016	Private Markets Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$502,246,398	\$2,061,990,500	\$2,393,209,829	Varies By Category	65.17%	86.16%

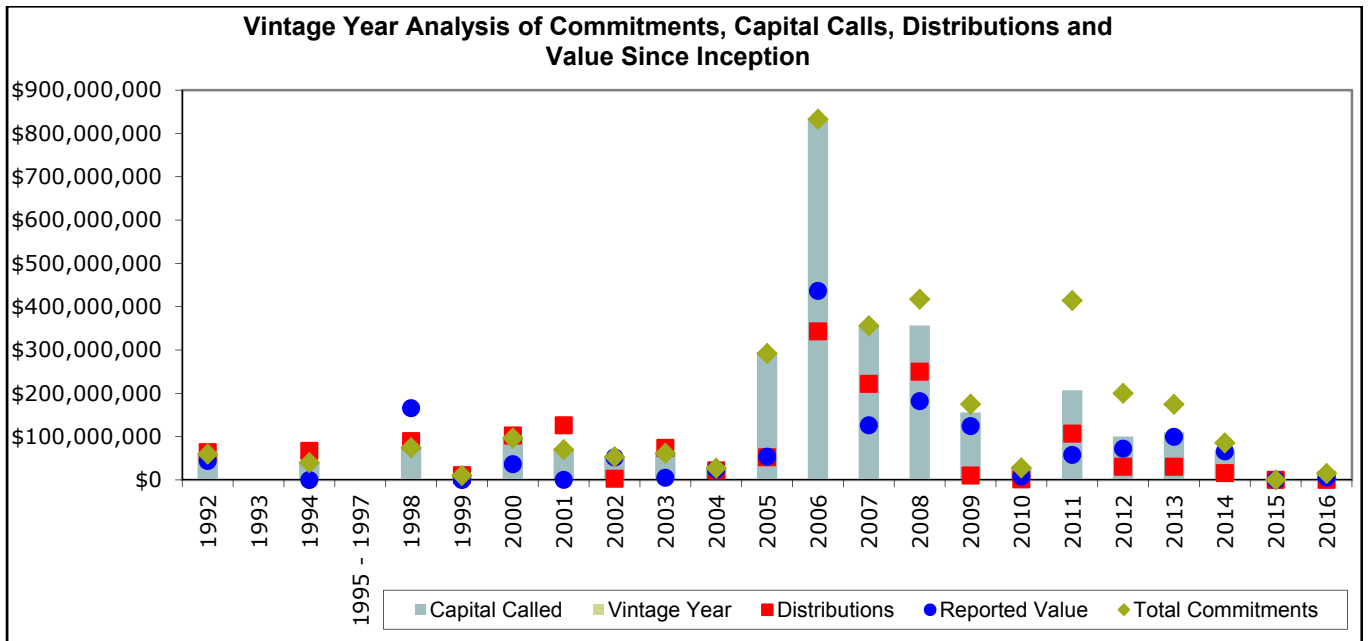
Total Value (Reported Value + Distributions)	Total Value To Capital Call Ratio	Internal Rate of Return IRR, Since Inception (October 13, 1994)
\$3,181,752,790	1.05	1.19%



As of September 30, 2016, the DPFP has made commitments totaling \$3,483.93 million to 86 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:

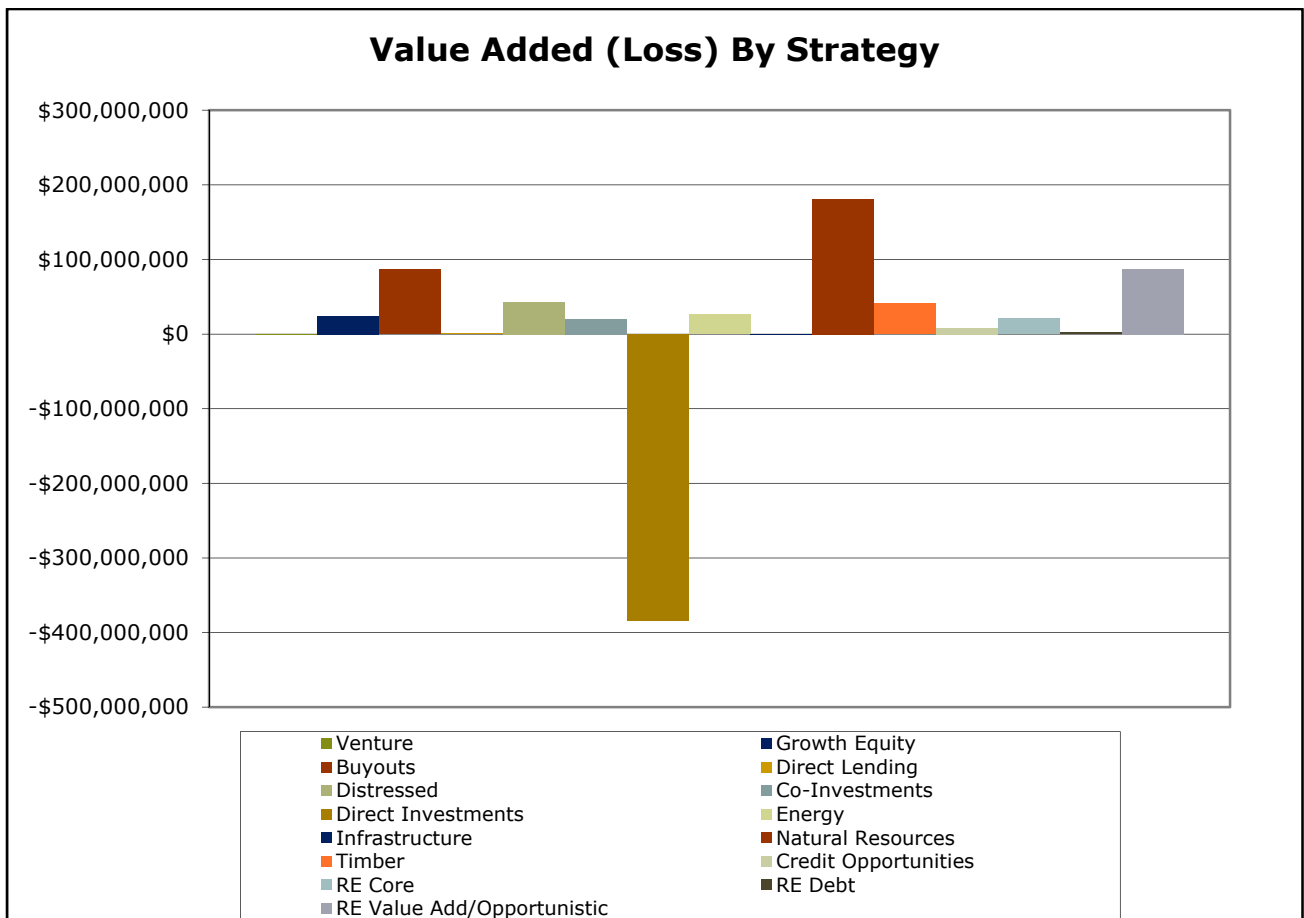




During the quarter-ended September 30, 2016, the DFPF private markets portfolio funded 34 investments and received 34 distributions from its funds. The summary of the cash flows follows:

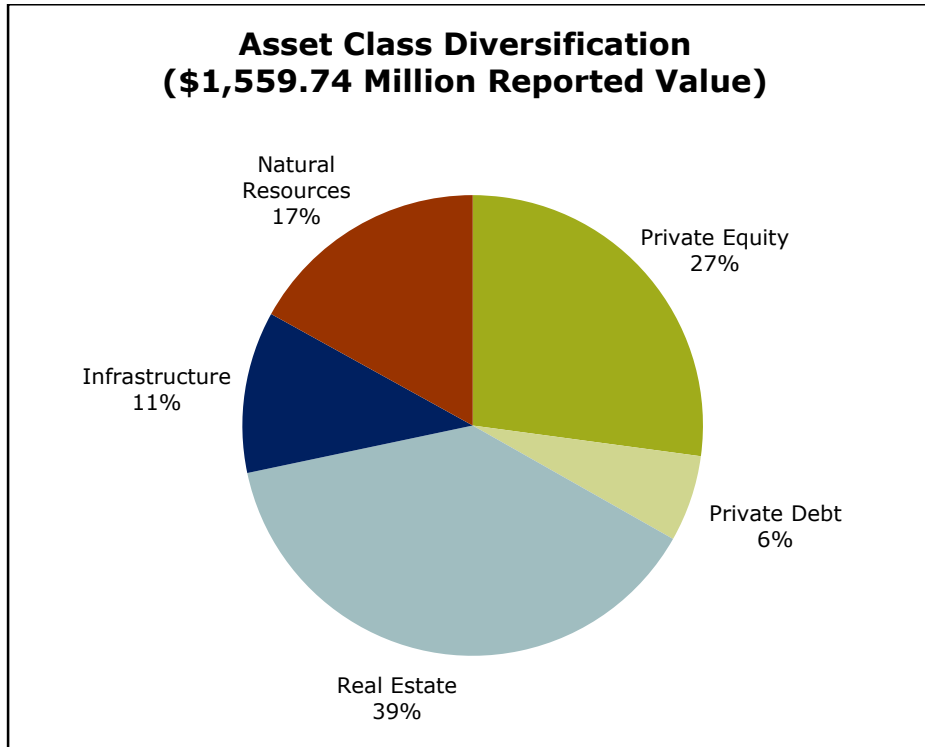
Amount Funded for the Quarter	Number of Funds Calling Capital	Distributions for the Quarter	Number of Funds Making Distributions	Net Cash/Stock Flows for the Quarter
\$19,697,869	34	\$115,114,342	34	\$95,416,472

Since inception the DFPF private markets portfolio added \$156.68 million in value to the DFPF. Investment strategies adding value include Growth Equity \$24.30 million, Buyouts \$86.99 million, Direct Lending \$0.30 million, Distressed \$42.97 million, Energy \$25.86 million, Natural Resources \$180.83 million, Timber \$41.02 million, Credit Opportunities \$8.17 million, RE Core \$20.70 million, RE Debt \$2.24 million, RE Value Add/Opportunistic \$87.16 million, and Co-Investments \$20.27 million. Direct Investments lost (\$383.49) million, Venture lost (\$0.008) million, and Infrastructure lost (\$0.63) million.





As of September 30, 2016, the private markets funds in the DFPF 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 DFPF and look forward to continued success in the future.

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

9/30/2016

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	\$ 1,278,185,126	\$ 1,088,020,803	\$ 207,371,512	\$ 803,475,144	\$ 517,960,681	\$ 1,321,435,825	\$ 207,312,450	85%	0.72	1.19	4.29%
Real Assets	\$ 2,205,741,568	\$ 1,910,866,682	\$ 294,874,886	\$ 818,533,545	\$ 1,041,783,421	\$ 1,860,316,966	\$ (50,633,061)	87%	0.43	0.97	-0.60%
Total	\$ 3,483,926,694	\$ 2,998,887,485	\$ 502,246,398	\$ 1,622,008,689	\$ 1,559,744,102	\$ 3,181,752,791	\$ 156,679,389	86%	0.54	1.05	1.19%

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) ¹
Private Equity	\$ 816,881,564	\$ 660,020,340	\$ 174,068,413	\$ 407,624,880	\$ 423,227,300	\$ 830,852,181	\$ 155,864,874	81%	0.60	1.23	4.81%
Private Debt	\$ 461,303,562	\$ 428,000,463	\$ 33,303,099	\$ 395,850,263	\$ 94,733,381	\$ 490,583,644	\$ 51,447,575	93%	0.90	1.12	3.28%
Natural Resources	\$ 236,397,292	\$ 236,397,292	\$ -	\$ 193,631,632	\$ 264,618,702	\$ 458,250,334	\$ 221,853,042	100%	0.82	1.94	10.09%
Real Estate	\$ 1,605,344,276	\$ 1,390,132,527	\$ 215,211,749	\$ 518,057,788	\$ 600,218,056	\$ 1,118,275,844	\$ (271,856,682)	87%	0.37	0.80	-4.68%
Infrastructure	\$ 364,000,000	\$ 284,336,863	\$ 79,663,137	\$ 106,844,125	\$ 176,946,663	\$ 283,790,787	\$ (629,421)	78%	0.38	1.00	-0.07%
Total	\$ 3,483,926,694	\$ 2,998,887,485	\$ 502,246,398	\$ 1,622,008,688	\$ 1,559,744,102	\$ 3,181,752,790	\$ 156,679,388	86%	0.54	1.05	1.19%

Notes:

1. 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)



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Private Equity and Private Debt

The following table presents the status of the DFPF PRIVATE EQUITY portfolio as of September 30, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$816,881,564	\$2,945,752	\$660,020,340	\$407,624,880	\$423,227,300	80.80%	61.76%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 9/30/2016	Private Equity Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$174,068,413	\$597,295,713	\$2,393,209,829	5%	17.68%	24.96%

Total Value (Reported Value + Distributions)	Total Value To Capital Call Ratio	Internal Rate of Return IRR, Since Inception
\$830,852,180	1.23	4.81%

The following table presents the status of the DFPF PRIVATE DEBT portfolio as of September 30, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$461,303,562	\$0	\$428,000,463	\$395,850,263	\$94,733,381	92.78%	92.49%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 9/30/2016	Private Debt Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$33,303,099	\$128,036,480	\$2,393,209,829	5%	3.96%	5.35%

Total Value (Reported Value + Distributions)	Total Value To Capital Call Ratio	Internal Rate of Return IRR, Since Inception
\$490,583,644	1.12	3.28%

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

9/30/2016

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	1.88	5.42	21.25	-12.16	-11.01	-8.47
BankCap Partners Fund I	2007	20,000,000	1.66	-1.49	-2.72	0.49	-0.03	-1.52
BankCap Partners Opportunity Fund, LP	2013	20,000,000	-1.01	-2.35	11.00	0.51		-0.37
Highland Credit Ops	2006	35,348,165	0.00	0.00	4.16	3.52	35.49	-2.39
Highland Crusader Fund	2003	50,955,397	-25.12	0.26	-2.62	-5.47	15.35	4.32
HM Capital Sector Performance Fund	2008	47,300,000				-3.19	18.85	-4.01
Hudson Clean Energy Partners	2009	25,000,000	-16.85	-24.89	-24.98	-8.37	-12.35	-7.77
Huff Alternative Fund	2000	66,795,718	2.90	-4.65	5.19	1.30	4.09	1.09
Huff Alternative Income Fund	1994	40,000,000						17.82
Huff Energy Fund	2006	100,000,000	-4.84	16.62	19.09	-13.21	-2.82	4.82
Industry Ventures Partnership Holdings IV	2016	5,000,000						-4.27
Kainos Capital Partners, L.P.	2013	35,000,000	4.98	21.48	30.77	31.62		28.70
Levine Leichtman Capital Partners IV	2008	50,000,000	-1.11	6.45	20.28	13.34	19.64	19.58
Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	4.22	7.99	16.10	13.55		12.22
Levine Leichtman Deep Value Fund	2006	75,000,000	-0.23	-13.49	-15.74	2.78	-4.40	0.73
Levine Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	-6.83	-4.00	-2.14	-1.36		-1.00
Lone Star CRA Fund	2008	50,000,000	2.27	8.07	-34.03	-20.46	-4.78	17.85
Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	19.37	26.40	32.38			30.69
Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	-8.09	-15.21	-18.77	19.25	46.22	48.22
Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	-0.71	-12.26	-12.51	22.34		21.28
Lone Star Growth Capital	2006	16,000,000	5.94	11.13	-15.36	-12.22	6.94	8.92
Lone Star Opportunities Fund V, LP	2012	75,000,000	3.29	9.30	-34.91	-16.94		-3.58
Merit Energy Partners E-I	2004	7,018,930	-6.12	-6.46	-16.44	-8.72	4.83	14.81
Merit Energy Partners F-I	2005	8,748,346	2.50	10.30	-7.31	-17.81	-10.37	-16.76
Merit Energy Partners G, LP	2008	39,200,000	-18.19	-10.69	-26.81	-13.15	-11.43	-7.24
Merit Energy Partners H, LP	2010	10,000,000	-0.18	2.46	-10.17	-7.84	-7.07	-6.96
North Texas Opportunity Fund	2000	10,000,000	-0.97	-4.86	-9.47	-15.00	-13.55	3.11
Oaktree Loan Fund 2X	2007	60,000,000	-4.34	2.21	-7.13	-6.36	9.21	2.65
Oaktree Power Fund III	2011	30,000,000	-3.51	2.30	21.36	10.03	14.79	12.50
OCM Opportunities Fund IV	2001	50,000,000	-0.29	9.30	8.71	18.01	10.98	28.36
Pharos Capital Co-Investment, LLC	2007	20,000,000				8.64	37.88	-9.92
Pharos Capital Co-Investments, LP	2008	40,000,000	-0.01	-0.15	-0.15	23.18	16.56	9.02
Pharos Capital Partners IIA, L.P.	2005	20,000,000	-0.97	-9.67	-11.36	-7.61	-2.29	4.33
Pharos Capital Partners III, LP	2012	50,000,000	2.77	15.27	13.35	5.54		0.69
Riverstone Credit Partners	2016	10,000,000	1.49					7.54
Yellowstone Energy Ventures II, L.P.	2008	5,283,254	4.58	14.49	-12.01	-42.62	-35.10	-29.11
Total: Dallas Police & Fire Pension System		1,278,185,126	-1.68	4.84	1.81	-3.19	3.09	4.29

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

9/30/2016

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
100 Venture													
1 Industry Ventures Partnership Holdings IV	2016	5,000,000	200,000	4,800,000	0	0	191,441	191,441	-8,559	4%	0.00	0.96	-4.27%
Subtotal: 100 Venture		5,000,000	200,000	4,800,000	0	0	191,441	191,441	-8,559	4%	0.00	0.96	-4.27%
110 Growth Equity													
1 BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	2,485,941	15,247,298	17,733,239	-2,266,761	100%	0.12	0.89	-1.52%
2 BankCap Partners Opportunity Fund, LP	2013	20,000,000	14,569,026	5,430,974	0	0	14,495,403	14,495,403	-73,623	73%	0.00	0.99	-0.37%
3 Hudson Clean Energy Partners	2009	25,000,000	24,912,744	87,256	0	3,661,896	13,475,752	17,137,648	-7,775,096	100%	0.15	0.69	-7.77%
4 Lone Star CRA Fund	2008	50,000,000	14,852,941	42,500,000	0	12,928,698	17,712,473	30,641,171	15,788,230	30%	0.87	2.06	17.85%
5 Lone Star Growth Capital	2006	16,000,000	12,800,000	16,000,000	0	12,800,000	10,750,759	23,550,759	10,750,759	80%	1.00	1.84	8.92%
6 Lone Star Opportunities Fund V, LP	2012	75,000,000	30,000,000	45,000,000	0	531,444	28,028,297	28,559,741	-1,440,259	40%	0.02	0.95	-3.58%
7 North Texas Opportunity Fund	2000	10,000,000	10,000,000	0	0	8,798,464	4,567,930	13,366,394	3,366,394	100%	0.88	1.34	3.11%
8 Pharos Capital Partners IIA, L.P.	2005	20,000,000	20,000,000	0	0	10,896,166	14,765,027	25,661,193	5,661,193	100%	0.54	1.28	4.33%
9 Pharos Capital Partners III, LP	2012	50,000,000	28,250,000	21,750,000	-54,286	1,635,955	26,848,942	28,484,897	289,183	57%	0.06	1.01	0.69%
Subtotal: 110 Growth Equity		286,000,000	175,384,711	130,768,230	-54,286	53,738,564	145,891,881	199,630,445	24,300,020	57%	0.31	1.14	3.18%
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	31,971,636	84,969,896	6,151,502	100%	0.67	1.08	1.09%
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	30,163,455	4,836,545	0	11,149,211	32,284,952	43,434,163	13,270,708	86%	0.37	1.44	28.70%
5 Levine Leichtman Capital Partners IV	2008	50,000,000	37,933,751	12,066,249	0	62,380,847	13,776,052	76,156,899	38,223,148	76%	1.64	2.01	19.58%
6 Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	17,597,023	7,402,977	-4,405	1,399,995	19,782,541	21,182,536	3,589,918	70%	0.08	1.20	12.22%
7 Oaktree Power Fund III	2011	30,000,000	16,096,514	13,903,486	0	11,940,647	11,480,358	23,421,005	7,324,491	54%	0.74	1.46	12.50%
Subtotal: 120 Buyouts		294,095,718	252,940,709	38,209,257	15,970,325	246,601,702	109,295,539	355,897,241	86,986,208	87%	0.92	1.32	8.02%
135 Direct Lending													
1 Riverstone Credit Partners	2016	10,000,000	5,373,854	4,626,146	110,118	254,949	5,531,302	5,786,251	302,279	54%	0.05	1.06	7.54%
Subtotal: 135 Direct Lending		10,000,000	5,373,854	4,626,146	110,118	254,949	5,531,302	5,786,251	302,279	54%	0.05	1.06	7.54%
150 Distressed													
1 Ashmore Global Special Situations Fund IV	2007	70,000,000	70,000,000	0	0	37,580,583	5,277,763	42,858,346	-27,141,654	100%	0.54	0.61	-8.47%
2 Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	78,873,960	9,808,615	88,682,575	2,656,913	100%	0.92	1.03	0.73%
3 Levine Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	17,909,974	7,090,026	-175	56,789	17,351,521	17,408,310	-501,490	72%	0.00	0.97	-1.00%
4 Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	20,292,982	14,707,018	0	2,040,493	22,477,460	24,517,953	4,224,970	58%	0.10	1.21	30.69%
5 Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,459,112	1,540,888	0	38,839,625	3,223,491	42,063,116	18,604,004	94%	1.66	1.79	48.22%
6 Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	19,660,978	5,339,022	0	13,318,016	12,795,505	26,113,521	6,452,542	79%	0.68	1.33	21.28%
7 Oaktree Loan Fund 2X	2007	60,000,000	60,000,000	0	0	64,287,256	1,864,390	66,151,646	6,151,646	100%	1.07	1.10	2.65%
8 OCM Opportunities Fund IV	2001	50,000,000	50,000,000	0	0	82,364,001	162,873	82,526,874	32,526,874	100%	1.65	1.65	28.36%
Subtotal: 150 Distressed		365,000,000	336,323,047	28,676,953	11,025,487	317,360,723	72,961,618	390,322,341	42,973,806	92%	0.91	1.12	4.29%
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	2,849,525	70,247,417	30,247,417	100%	1.68	1.76	9.02%
Subtotal: 200 Co-Investment		60,000,000	60,000,000	0	0	77,417,049	2,849,525	80,266,574	20,266,574	100%	1.29	1.34	4.39%

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

9/30/2016

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
400 Energy													
1 Huff Energy Fund	2006	100,000,000	99,880,021	119,979	-947,331	4,477,394	131,208,655	135,686,049	36,753,359	100%	0.05	1.37	4.82%
2 Merit Energy Partners E-I	2004	7,018,930	7,018,930	0	-1,741	12,933,530	2,440,711	15,374,241	8,357,052	100%	1.84	2.19	14.81%
3 Merit Energy Partners F-I	2005	8,748,346	8,748,346	0	0	3,644,724	200,515	3,845,239	-4,903,107	100%	0.42	0.44	-16.76%
4 Merit Energy Partners G, LP	2008	39,200,000	39,200,000	0	0	6,532,135	23,468,244	30,000,379	-9,199,621	100%	0.17	0.77	-7.24%
5 Merit Energy Partners H, LP	2010	10,000,000	10,000,000	0	0	1,241,072	7,146,231	8,387,303	-1,612,697	100%	0.12	0.84	-6.96%
6 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	5,112,307	170,947	0	1,038,711	534,558	1,573,269	-3,539,038	97%	0.20	0.31	-29.11%
Subtotal: 400 Energy		170,250,530	169,959,604	290,926	-949,072	29,867,566	164,998,914	194,866,480	25,855,948	100%	0.18	1.15	2.58%
502 Credit Opportunities													
1 Highland Credit Ops	2006	35,348,165	35,348,165	0	0	17,010,655	12,431,871	29,442,526	-5,905,639	100%	0.48	0.83	-2.39%
2 Highland Crusader Fund	2003	50,955,397	50,955,397	0	0	61,223,936	3,808,590	65,032,526	14,077,129	100%	1.20	1.28	4.32%
Subtotal: 502 Credit Opportunities		86,303,562	86,303,562	0	0	78,234,591	16,240,461	94,475,052	8,171,490	100%	0.91	1.09	1.49%
Total: Dallas Police & Fire Pension System ¹		1,278,185,126	1,088,020,803	207,371,512	26,102,572	803,475,144	517,960,681	1,321,435,825	207,312,450	85%	0.72	1.19	4.29%

Note:

1. Total Includes funding for CDK Southern Cross investment

**Dallas Police & Fire Pension System
As of 9/30/2016**

Growth Equity					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
BankCap Partners Fund I	2007	\$ 20.0	\$ 20.0	18	-1.52%	15.10%	10.43%	4.43%	0.12x	1.28x	0.93x	0.35x	0.89x	2.15x	1.57x	1.27x	4	4	4	U.S. Growth Equity
BankCap Partners Opportunity Fund, LP	2013	\$ 20.0	\$ 14.6	12	-0.37%	12.62%	5.52%	2.89%	0.00x	0.05x	0.01x	0.00x	0.99x	1.26x	1.09x	1.05x	4	4	4	U.S. Growth Equity
Hudson Clean Energy Partners	2009	\$ 25.0	\$ 24.9	7	-7.77%	---	10.57%	---	0.15x	---	0.50x	---	0.69x	---	1.55x	---	NA	NA	NA	U.S. Growth Equity
Lone Star CRA Fund	2008	\$ 50.0	\$ 14.9	6	17.85%	---	10.38%	---	0.87x	---	0.77x	---	2.06x	---	1.56x	---	NA	NA	NA	U.S. Growth Equity
Lone Star Growth Capital	2006	\$ 16.0	\$ 12.8	12	8.92%	14.00%	7.06%	4.34%	1.00x	1.48x	1.21x	1.11x	1.84x	1.90x	1.37x	1.22x	2	4	2	U.S. Growth Equity
Lone Star Opportunities Fund V, LP	2012	\$ 75.0	\$ 30.0	12	-3.58%	19.92%	14.36%	11.30%	0.02x	0.21x	0.08x	0.00x	0.95x	1.53x	1.32x	1.28x	4	3	4	U.S. Growth Equity
North Texas Opportunity Fund	2000	\$ 10.0	\$ 10.0	13	3.11%	9.67%	4.40%	-4.28%	0.88x	1.59x	1.33x	0.76x	1.34x	1.67x	1.33x	0.80x	3	3	2	U.S. Growth Equity
Pharos Capital Partners IIA, L.P.	2005	\$ 20.0	\$ 20.0	15	4.33%	16.38%	9.89%	5.88%	0.54x	1.71x	1.31x	0.38x	1.28x	2.48x	1.62x	1.35x	4	3	4	U.S. Growth Equity
Pharos Capital Partners III, LP	2012	\$ 50.0	\$ 28.3	12	0.69%	19.92%	14.36%	11.30%	0.06x	0.21x	0.08x	0.00x	1.01x	1.53x	1.32x	1.28x	4	3	4	U.S. Growth Equity

Buyouts					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
HM Capital Sector Performance Fund	2008	\$ 47.3	\$ 44.4	53	-4.01%	19.88%	13.20%	8.15%	0.86x	1.35x	0.96x	0.62x	0.86x	1.89x	1.58x	1.39x	4	3	4	U.S. Buyout
Huff Alternative Fund	2000	\$ 66.8	\$ 66.8	55	1.09%	21.56%	14.35%	10.57%	0.67x	2.22x	1.81x	1.48x	1.08x	2.33x	1.91x	1.53x	4	4	4	U.S. Buyout
Huff Alternative Income Fund	1994	\$ 40.0	\$ 40.0	21	17.82%	28.17%	14.44%	7.13%	1.59x	2.41x	1.64x	1.34x	1.59x	2.43x	1.64x	1.34x	2	3	3	U.S. Buyout
Kainos Capital Partners, L.P.	2013	\$ 35.0	\$ 30.2	35	28.70%	17.06%	10.37%	3.11%	0.37x	0.19x	0.03x	0.00x	1.44x	1.32x	1.16x	1.04x	1	1	1	U.S. Buyout
Levine Leichtman Capital Partners IV	2008	\$ 50.0	\$ 37.9	53	19.58%	19.88%	13.20%	8.15%	1.64x	1.35x	0.96x	0.62x	2.01x	1.89x	1.58x	1.39x	2	1	1	U.S. Buyout
Levine Leichtman Capital Partners V, L.P.	2013	\$ 25.0	\$ 17.6	35	12.22%	17.06%	10.37%	3.11%	0.08x	0.19x	0.03x	0.00x	1.20x	1.32x	1.16x	1.04x	2	2	2	U.S. Buyout
Oaktree Power Fund III	2011	\$ 30.0	\$ 16.1	24	12.50%	17.66%	13.69%	9.70%	0.74x	0.50x	0.35x	0.19x	1.46x	1.58x	1.41x	1.26x	3	1	2	U.S. Buyout

Direct Lending					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Riverstone Credit Partners	2016	\$ 10.0	\$ 5.4	48	7.54%	-1.60%	-9.70%	-16.51%	0.05x	0.00x	0.00x	0.00x	1.06x	0.99x	0.93x	0.87x	NA	NA	NA	U.S. All PE

Distressed					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Ashmore Global Special Situations Fund IV	2007	\$ 70.0	\$ 70.0	6	-8.47%	---	7.89%	---	0.54x	---	1.29x	---	0.61x	---	1.54x	---	4	4	4	Global Distressed
Levine Leichtman Deep Value Fund	2006	\$ 75.0	\$ 75.0	14	0.73%	13.21%	8.40%	6.23%	0.92x	1.65x	1.11x	1.05x	1.03x	1.88x	1.65x	1.37x	4	4	4	U.S. Distressed
Levine Leichtman Private Capital Solutions II, L.P.	2012	\$ 25.0	\$ 17.9	11	-1.00%	17.14%	9.92%	9.01%	0.00x	0.60x	0.44x	0.13x	0.97x	1.36x	1.26x	1.22x	4	4	4	U.S. Distressed
Lone Star Fund IX (U.S.), L.P.	2014	\$ 35.0	\$ 20.3	10	30.69%	15.91%	6.41%	0.38%	0.10x	0.23x	0.04x	0.00x	1.21x	1.25x	1.08x	1.01x	1	2	2	U.S. Distressed
Lone Star Fund VII (U.S.), L.P.	2011	\$ 25.0	\$ 23.5	3	48.22%	---	---	---	1.66x	---	---	---	1.79x	---	---	---	NA	NA	NA	Global Distressed
Lone Star Fund VIII (U.S.), L.P.	2013	\$ 25.0	\$ 19.7	3	21.28%	---	---	---	0.68x	---	---	---	1.33x	---	---	---	NA	NA	NA	Global Distressed
Oaktree Loan Fund 2X	2007	\$ 60.0	\$ 60.0	6	2.65%	---	7.89%	---	1.07x	---	1.29x	---	1.10x	---	1.54x	---	4	4	4	Global Distressed
OCM Opportunities Fund IV	2001	\$ 50.0	\$ 50.0	4	28.36%	---	---	---	1.65x	---	---	---	1.65x	---	---	---	NA	NA	NA	U.S. Distressed

Co-Investment					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Pharos Capital Co-Investment, LLC	2007	\$ 20.0	\$ 20.0	18	-9.92%	15.10%	10.43%	4.43%	0.50x	1.28x	0.93x	0.35x	0.50x	2.15x	1.57x	1.27x	4	3	4	U.S. Growth Equity
Pharos Capital Co-Investments, LP	2008	\$ 40.0	\$ 40.0	6	9.02%	---	10.38%	---	1.68x	---	0.77x	---	1.76x	---	1.56x	---	4	2	2	U.S. Growth Equity

Energy					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Huff Energy Fund	2006	\$ 100.0	\$ 99.9	10	4.82%	10.32%	2.25%	-7.35%	0.05x	1.38x	0.99x	0.49x	1.37x	1.55x	1.10x	0.74x	2	4	2	U.S. Energy
Merit Energy Partners E-I	2004	\$ 7.0	\$ 7.0	7	14.81%	---	17.66%	---	1.84x	---	1.68x	---	2.19x	---	1.69x	---	NA	NA	NA	U.S. Energy
Merit Energy Partners F-I	2005	\$ 8.7	\$ 8.7	8	-16.76%	9.50%	4.69%	-0.47%	0.42x	1.58x	1.08x	0.82x	0.44x	1.66x	1.22x	0.99x	4	4	4	U.S. Energy
Merit Energy Partners G, LP	2008	\$ 39.2	\$ 39.2	13	-7.24%	11.21%	6.15%	-3.68%	0.17x	0.66x	0.59x	0.41x	0.77x	1.46x	1.32x	0.84x	4	4	4	U.S. Energy
Merit Energy Partners H, LP	2010	\$ 10.0	\$ 10.0	8	-6.96%	26.49%	7.43%	0.27%	0.12x	1.19x	0.48x	0.31x	0.84x	1.88x	1.27x	1.02x	4	4	4	U.S. Energy
Yellowstone Energy Ventures II, L.P.	2008	\$ 5.3	\$ 5.1	13	-29.11%	11.21%	6.15%	-3.68%	0.20x	0.66x	0.59x	0.41x	0.31x	1.46x	1.32x	0.84x	4	4	4	U.S. Energy

Credit Opportunities					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Highland Credit Ops	2006	\$ 35.3	\$ 35.3	4	-2.39%	---	---	---	0.48x	---	---	---	0.83x	---	---	---	NA	NA	NA	Global Distressed
Highland Crusader Fund	2003	\$ 51.0	\$ 51.0	3	4.32%	---	---	---	1.20x	---	---	---	1.28x	---	---	---	NA	NA	NA	Global Distressed

Venture					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Industry Ventures Partnership Holdings IV	2016	\$ 5.0	\$ 0.2	18	-4.27%	-3.65%	-12.62%	-18.51%	0.00x	0.00x	0.00x	0.00x	0.96x	0.97x	0.92x	0.87x	2	4	2	U.S. Venture

Note:
Benchmark data from Thomson One/Cambridge Associates as of 9.30.16

Dallas Police & Fire Pension System
Private Equity & Debt Funds - Vintage Year Performance Analysis

9/30/2016

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		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%
2000													
1 Huff Alternative Fund	2000	66,795,718	66,795,718	0	12,022,676	52,998,260	31,971,636	84,969,896	6,151,502	100%	0.67	1.08	1.09%
2 North Texas Opportunity Fund	2000	10,000,000	10,000,000	0	0	8,798,464	4,567,930	13,366,394	3,366,394	100%	0.88	1.34	3.11%
Subtotal: 2000		76,795,718	76,795,718	0	12,022,676	61,796,724	36,539,566	98,336,290	9,517,896	100%	0.70	1.11	1.43%
2001													
1 OCM Opportunities Fund IV	2001	50,000,000	50,000,000	0	0	82,364,001	162,873	82,526,874	32,526,874	100%	1.65	1.65	28.36%
Subtotal: 2001		50,000,000	50,000,000	0	0	82,364,001	162,873	82,526,874	32,526,874	100%	1.65	1.65	28.36%
2003													
1 Highland Crusader Fund	2003	50,955,397	50,955,397	0	0	61,223,936	3,808,590	65,032,526	14,077,129	100%	1.20	1.28	4.32%
Subtotal: 2003		50,955,397	50,955,397	0	0	61,223,936	3,808,590	65,032,526	14,077,129	100%	1.20	1.28	4.32%
2004													
1 Merit Energy Partners E-I	2004	7,018,930	7,018,930	0	-1,741	12,933,530	2,440,711	15,374,241	8,357,052	100%	1.84	2.19	14.81%
Subtotal: 2004		7,018,930	7,018,930	0	-1,741	12,933,530	2,440,711	15,374,241	8,357,052	100%	1.84	2.19	14.81%
2005													
1 Merit Energy Partners F-I	2005	8,748,346	8,748,346	0	0	3,644,724	200,515	3,845,239	-4,903,107	100%	0.42	0.44	-16.76%
2 Pharos Capital Partners IIA, L.P.	2005	20,000,000	20,000,000	0	0	10,896,166	14,765,027	25,661,193	5,661,193	100%	0.54	1.28	4.33%
Subtotal: 2005		28,748,346	28,748,346	0	0	14,540,890	14,965,542	29,506,432	758,086	100%	0.51	1.03	0.43%
2006													
1 Highland Credit Ops	2006	35,348,165	35,348,165	0	0	17,010,655	12,431,871	29,442,526	-5,905,639	100%	0.48	0.83	-2.39%
2 Huff Energy Fund	2006	100,000,000	99,880,021	119,979	-947,331	4,477,394	131,208,655	135,686,049	36,753,359	100%	0.05	1.37	4.82%
3 Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	78,873,960	9,808,615	88,682,575	2,656,913	100%	0.92	1.03	0.73%
4 Lone Star Growth Capital	2006	16,000,000	12,800,000	16,000,000	0	12,800,000	10,750,759	23,550,759	10,750,759	80%	1.00	1.84	8.92%
Subtotal: 2006		226,348,165	223,028,186	16,119,979	10,078,331	113,162,009	164,199,900	277,361,909	44,255,393	93%	0.49	1.19	2.90%
2007													
1 Ashmore Global Special Situations Fund IV	2007	70,000,000	70,000,000	0	0	37,580,583	5,277,763	42,858,346	-27,141,654	100%	0.54	0.61	-8.47%
2 BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	2,485,941	15,247,298	17,733,239	-2,266,761	100%	0.12	0.89	-1.52%
3 Oaktree Loan Fund 2X	2007	60,000,000	60,000,000	0	0	64,287,256	1,864,390	66,151,646	6,151,646	100%	1.07	1.10	2.65%
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	114,372,937	22,389,451	136,762,388	-33,237,612	100%	0.67	0.80	-4.18%
2008													
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 Levine Leichtman Capital Partners IV	2008	50,000,000	37,933,751	12,066,249	0	62,380,847	13,776,052	76,156,899	38,223,148	76%	1.64	2.01	19.58%
3 Lone Star CRA Fund	2008	50,000,000	14,852,941	42,500,000	0	12,928,698	17,712,473	30,641,171	15,788,230	30%	0.87	2.06	17.85%
4 Merit Energy Partners G, LP	2008	39,200,000	39,200,000	0	0	6,532,135	23,468,244	30,000,379	-9,199,621	100%	0.17	0.77	-7.24%
5 Pharos Capital Co-Investments, LP	2008	40,000,000	40,000,000	0	0	67,397,892	2,849,525	70,247,417	30,247,417	100%	1.68	1.76	9.02%
6 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	5,112,307	170,947	0	1,038,711	534,558	1,573,269	-3,539,038	97%	0.20	0.31	-29.11%

Dallas Police & Fire Pension System
Private Equity & Debt Funds - Vintage Year Performance Analysis

9/30/2016

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
Subtotal: 2008		233,318,570	182,988,562	54,737,196	1,933,378	190,070,828	58,340,852	248,411,680	63,489,740	77%	1.03	1.34	6.75%
2009													
1 Hudson Clean Energy Partners	2009	25,000,000	24,912,744	87,256	0	3,661,896	13,475,752	17,137,648	-7,775,096	100%	0.15	0.69	-7.77%
Subtotal: 2009		25,000,000	24,912,744	87,256	0	3,661,896	13,475,752	17,137,648	-7,775,096	100%	0.15	0.69	-7.77%
2010													
1 Merit Energy Partners H, LP	2010	10,000,000	10,000,000	0	0	1,241,072	7,146,231	8,387,303	-1,612,697	100%	0.12	0.84	-6.96%
Subtotal: 2010		10,000,000	10,000,000	0	0	1,241,072	7,146,231	8,387,303	-1,612,697	100%	0.12	0.84	-6.96%
2011													
1 Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,459,112	1,540,888	0	38,839,625	3,223,491	42,063,116	18,604,004	94%	1.66	1.79	48.22%
2 Oaktree Power Fund III	2011	30,000,000	16,096,514	13,903,486	0	11,940,647	11,480,358	23,421,005	7,324,491	54%	0.74	1.46	12.50%
Subtotal: 2011		55,000,000	39,555,626	15,444,374	0	50,780,272	14,703,849	65,484,121	25,928,495	72%	1.28	1.66	28.89%
2012													
1 Levine Leichtman Private Capital Solutions II, LP	2012	25,000,000	17,909,974	7,090,026	-175	56,789	17,351,521	17,408,310	-501,490	72%	0.00	0.97	-1.00%
2 Lone Star Opportunities Fund V, LP	2012	75,000,000	30,000,000	45,000,000	0	531,444	28,028,297	28,559,741	-1,440,259	40%	0.02	0.95	-3.58%
3 Pharos Capital Partners III, LP	2012	50,000,000	28,250,000	21,750,000	-54,286	1,635,955	26,848,942	28,484,897	289,183	57%	0.06	1.01	0.69%
Subtotal: 2012		150,000,000	76,159,974	73,840,026	-54,461	2,224,187	72,228,760	74,452,947	-1,652,566	51%	0.03	0.98	-1.25%
2013													
1 BankCap Partners Opportunity Fund, LP	2013	20,000,000	14,569,026	5,430,974	0	0	14,495,403	14,495,403	-73,623	73%	0.00	0.99	-0.37%
2 Kainos Capital Partners, L.P.	2013	35,000,000	30,163,455	4,836,545	0	11,149,211	32,284,952	43,434,163	13,270,708	86%	0.37	1.44	28.70%
3 Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	17,597,023	7,402,977	-4,405	1,399,995	19,782,541	21,182,536	3,589,918	70%	0.08	1.20	12.22%
4 Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	19,660,978	5,339,022	0	13,318,016	12,795,505	26,113,521	6,452,542	79%	0.68	1.33	21.28%
Subtotal: 2013		105,000,000	81,990,483	23,009,517	-4,405	25,867,221	79,358,401	105,225,622	23,239,545	78%	0.32	1.28	18.53%
2014													
1 Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	20,292,982	14,707,018	0	2,040,493	22,477,460	24,517,953	4,224,970	58%	0.10	1.21	30.69%
Subtotal: 2014		35,000,000	20,292,982	14,707,018	0	2,040,493	22,477,460	24,517,953	4,224,970	58%	0.10	1.21	30.69%
2016													
1 Industry Ventures Partnership Holdings IV	2016	5,000,000	200,000	4,800,000	0	0	191,441	191,441	-8,559	4%	0.00	0.96	-4.27%
2 Riverstone Credit Partners	2016	10,000,000	5,373,854	4,626,146	110,118	254,949	5,531,302	5,786,251	302,279	54%	0.05	1.06	7.54%
Subtotal: 2016		15,000,000	5,573,854	9,426,146	110,118	254,949	5,722,743	5,977,692	293,720	37%	0.04	1.05	7.11%
Total: Dallas Police & Fire Pension System ¹		1,278,185,126	1,088,020,803	207,371,512	26,102,572	803,475,144	517,960,681	1,321,435,825	207,312,450	85%	0.72	1.19	4.29%

Note:

1. Total includes funding for CDK Southern Cross investment



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Real Estate and Real Assets

The following table presents the status of the DFPF **REAL ESTATE** portfolio as of September 30, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$1,605,344,276	\$0	\$1,390,132,527	\$518,057,788	\$600,218,056	86.59%	37.27%
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)		Total Fund Composite as of 9/30/2016	Real Estate Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$215,211,749	\$815,429,805		\$2,393,209,829	12%	25.08%	34.07%
Total Value (Reported Value + Distributions)			Total Value To Capital Call Ratio		Internal Rate of Return IRR, Since Inception	
\$1,118,275,844			0.80		-4.68%	

The following table presents the status of the DFPF **NATURAL RESOURCES** portfolio as of September 30, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$236,397,292	\$0	\$236,397,292	\$193,631,632	\$264,618,702	100.00%	81.91%
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)		Total Fund Composite as of 9/30/2016	Natural Resources Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$0	\$264,618,702		\$2,393,209,829	3%	11.06%	11.06%
Total Value (Reported Value + Distributions)			Total Value To Capital Call Ratio		Internal Rate of Return IRR, Since Inception	
\$458,250,334			1.94		10.09%	

The following table presents the status of the DFPF **INFRASTRUCTURE** portfolio as of September 30, 2016:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$364,000,000	\$0	\$284,336,863	\$106,844,125	\$176,946,663	78.11%	37.58%
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)		Total Fund Composite as of 9/30/2016	Infrastructure Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$79,663,137	\$256,609,800		\$2,393,209,829	5%	7.39%	10.72%
Total Value (Reported Value + Distributions)			Total Value To Capital Call Ratio		Internal Rate of Return IRR, Since Inception	
\$283,790,788			1.00		-0.07%	

Dallas Police & Fire Pension System
Investment Strategy Performance Analysis

9/30/2016¹

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
Real Estate												
Direct Investments ²	Various	1,382,263,253	1,192,596,266	189,666,987	0	300,858,552	533,261,052	834,119,603	-358,476,663	86%	0.25	0.70
CDK Multifamily I	2014	10,484,876	10,484,876	0	0	42,934	10,786,650	10,829,584	344,708	100%	0.00	1.03
Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,970,115	2,029,885	0	10,989,565	3,069	10,992,634	3,022,519	80%	1.38	1.38
Hearthstone MS III Homebuilding Investors	2003	10,587,389	10,587,389	0	0	12,863,833	1,272,825	14,136,658	3,549,269	100%	1.22	1.34
Lone Star Fund III (U.S.), L.P.	2000	20,000,000	19,827,415	172,585	0	40,674,181	49,281	40,723,462	20,896,047	99%	2.05	2.05
Lone Star Fund IV (U.S.), L.P.	2001	20,000,000	19,045,201	954,799	0	43,786,407	138,762	43,925,169	24,879,968	95%	2.30	2.31
Lone Star Fund V (U.S.), L.P.	2005	22,500,000	22,254,975	245,025	0	16,592,341	4,487,193	21,079,534	-1,175,441	99%	0.75	0.95
Lone Star Fund VI (U.S.), L.P.	2008	25,000,000	20,005,358	4,994,642	0	26,884,679	5,307,601	32,192,280	12,186,922	80%	1.34	1.61
Lone Star Real Estate Fund (U.S.), L.P.	2008	25,000,000	20,719,418	4,280,582	0	22,817,586	3,082,149	25,899,735	5,180,317	83%	1.10	1.25
Lone Star Real Estate Fund II	2011	25,000,000	22,152,461	2,847,539	0	29,244,379	4,681,219	33,925,598	11,773,137	89%	1.32	1.53
Lone Star Real Estate Fund III	2014	25,000,000	23,192,974	1,807,026	0	8,627,553	20,856,430	29,483,983	6,291,009	93%	0.37	1.27
M&G Real Estate Debt Fund II	2013	29,508,758	21,296,078	8,212,680	0	4,675,779	16,291,826	20,967,604	-328,474	72%	0.22	0.98
Subtotal: Real Estate		1,605,344,276	1,390,132,527	215,211,749	0	518,057,788	600,218,056	1,118,275,844	-271,856,682	87%	0.37	0.80
Infrastructure												
AIRRO Consolidated (2 investments)	Various	77,000,000	42,645,976	34,354,024	-762,541	4,677,250	34,923,922	39,601,172	-2,282,264	55%	0.11	0.93
JP Morgan Consolidated (2 Investments)	Various	87,000,000	80,924,501	6,075,499	-404	14,959,141	55,051,160	70,010,301	-10,913,796	93%	0.18	0.87
LBJ Infrastructure Group Holding, LLC (LBJ)	2009	50,000,000	44,346,229	5,653,771	0	1,782,000	44,346,035	46,128,035	1,781,806	89%	0.04	1.04
NTE 3a-3b	2012	50,000,000	23,794,565	26,205,435	0	28,186,978	0	28,186,978	4,392,413	48%	1.18	1.18
NTE Mobility Partners Holding, LLC (NTE)	2009	50,000,000	42,625,592	7,374,408	0	2,000,000	42,625,545	44,625,545	1,999,953	85%	0.05	1.05
RREEF North American Infrastructure Fund	2007	50,000,000	50,000,000	0	846,289	55,238,755	0	55,238,755	4,392,466	100%	1.09	1.09
Subtotal: Infrastructure		364,000,000	284,336,863	79,663,137	83,344	106,844,125	176,946,663	283,790,787	-629,421	78%	0.38	1.00
Natural Resources												
Hancock Agricultural	1998	74,420,001	74,420,001	0	0	89,596,343	165,654,516	255,250,859	180,830,858	100%	1.20	3.43
BTG Timberland	2006	102,327,595	102,327,595	0	0	40,056,506	55,181,020	95,237,526	-7,090,069	100%	0.39	0.93
FIA Timberland	1992	59,649,696	59,649,696	0	0	63,978,783	43,783,166	107,761,949	48,112,253	100%	1.07	1.81
Subtotal: Natural Resources		236,397,292	236,397,292	0	0	193,631,632	264,618,702	458,250,334	221,853,042	100%	0.82	1.94
Total: Real Assets		2,205,741,568	1,910,866,682	294,874,886	83,344	818,533,545	1,041,783,421	1,860,316,966	-50,633,061	87%	0.43	0.97

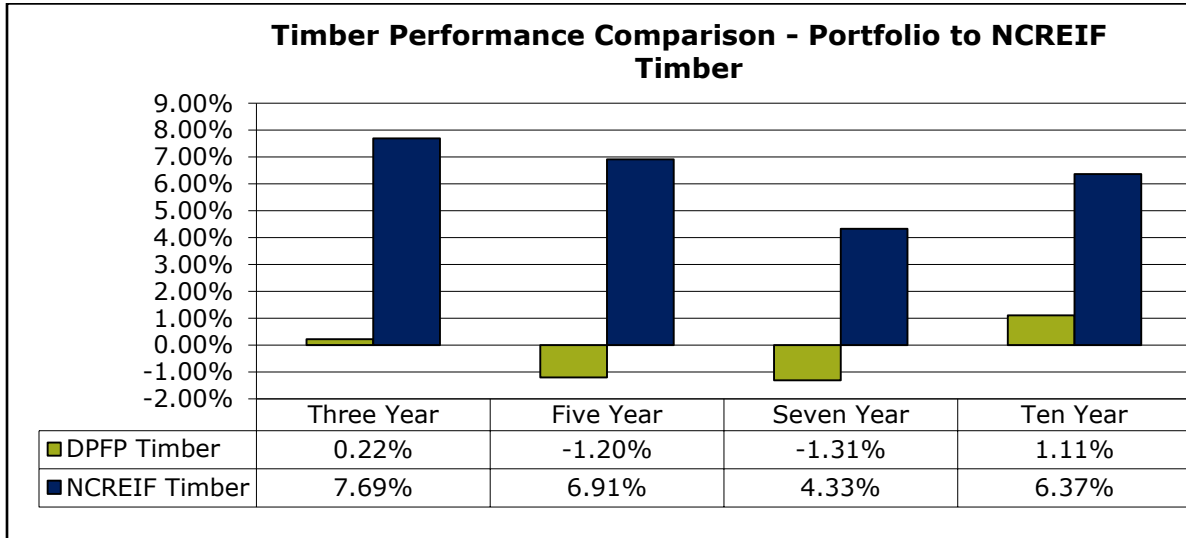
Notes:

1. Data provided from managers as of September 30, 2016

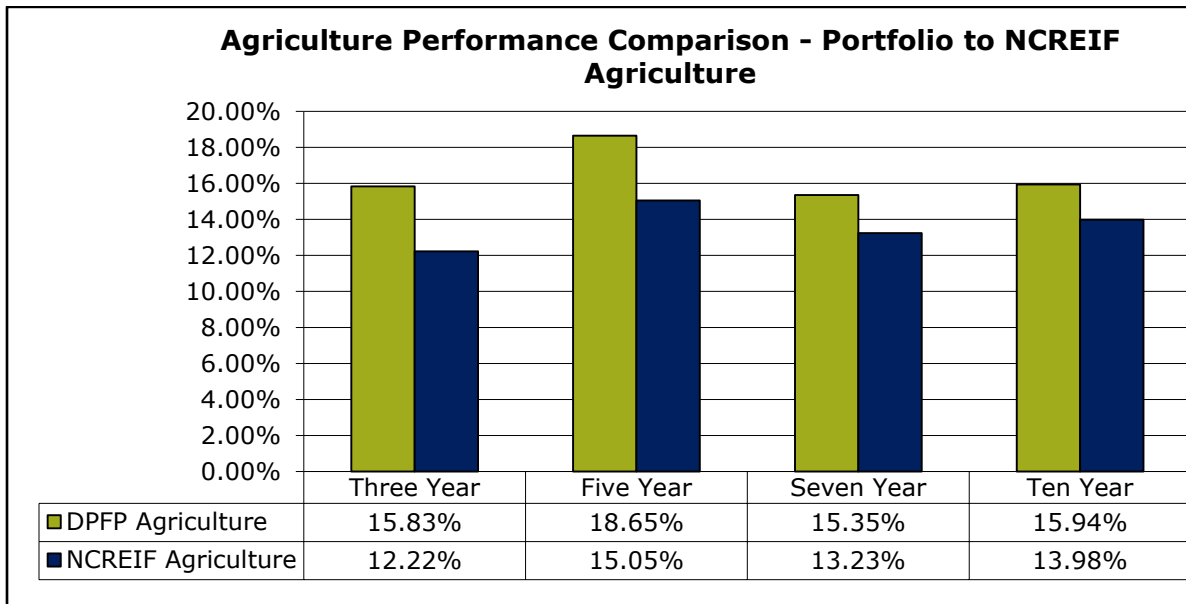
2. Unfunded commitment includes Sumitomo line of credit of \$188,900,000

Timber and Agriculture Benchmarks

The following graph shows the performance of the DFPF **Timber** portfolio vs. the NCREIF Timber Index as of September 30, 2016:

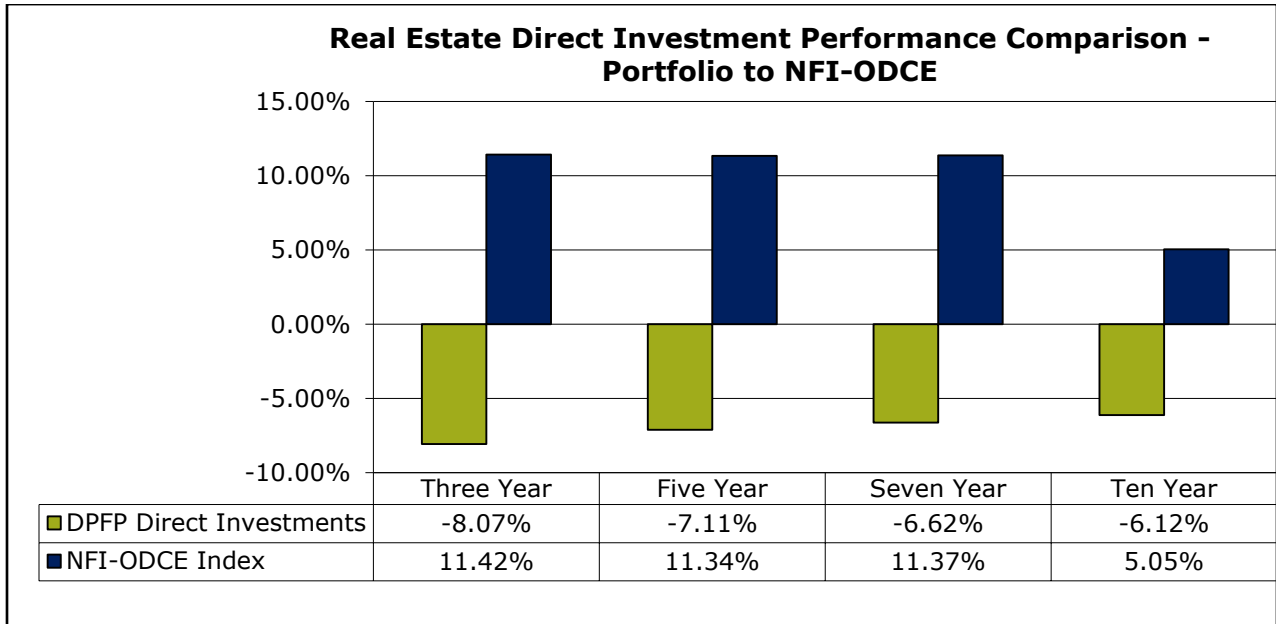


The following graph shows the performance of the DFPF **Agriculture** portfolio vs. the NCREIF Agriculture Index as of September 30, 2016:



Real Estate Benchmark

The following graph shows the performance of the DPFP **Direct Investment Real Estate** portfolio vs. the NCREIF NFI-ODCE Index as of September 30, 2016:



**Dallas Police & Fire Pension System
As of 9/30/2016**

U.S. RE					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
CDK Multifamily I	2014	\$ 10.5	\$ 10.5	33	1.52%	12.83%	10.81%	5.31%	0.00x	0.13x	0.06x	0.00x	1.03x	1.19x	1.12x	1.07x	4	4	4	
Hearthstone MS II Homebuilding Investors	1999	\$ 10.0	\$ 8.0	16	26.70%	17.81%	10.22%	9.23%	1.38x	1.78x	1.46x	1.40x	1.38x	1.81x	1.48x	1.40x	1	4	4	U.S RE
Hearthstone MS III Homebuilding Investors	2003	\$ 10.6	\$ 10.6	25	25.15%	20.10%	10.83%	-1.62%	1.22x	1.62x	1.37x	0.91x	1.34x	1.76x	1.46x	0.91x	1	3	3	U.S RE

European RE					IRR				DPI				TVPI				Quartile Rank			Benchmark	
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI		
M&G Real Estate Debt Fund II	2013	\$ 29.5	\$ 21.3	#N/A	-1.29%	NA	NA	NA	0.22x	NA	NA	NA	0.98x	NA	NA	NA	NA	NA	NA		NA

Global RE					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Lone Star Fund III (U.S.), L.P.	2000	\$ 20.0	\$ 19.8	17	31.88%	24.23%	18.37%	13.29%	2.05x	2.06x	1.53x	1.37x	2.05x	2.10x	1.75x	1.46x	1	2	2	
Lone Star Fund IV (U.S.), L.P.	2001	\$ 20.0	\$ 19.0	20	30.15%	26.53%	18.83%	9.09%	2.30x	1.90x	1.65x	1.40x	2.31x	1.90x	1.66x	1.44x	1	1	1	Global RE
Lone Star Fund V (U.S.), L.P.	2005	\$ 22.5	\$ 22.3	66	-0.99%	2.52%	-0.98%	-7.55%	0.75x	1.06x	0.70x	0.43x	0.95x	1.17x	0.95x	0.70x	3	2	3	Global RE
Lone Star Fund VI (U.S.), L.P.	2008	\$ 25.0	\$ 20.0	50	22.62%	12.05%	8.88%	4.50%	1.34x	1.41x	1.10x	0.76x	1.61x	1.55x	1.40x	1.25x	1	2	1	Global RE
Lone Star Real Estate Fund (U.S.), L.P.	2008	\$ 25.0	\$ 20.7	50	5.65%	12.05%	8.88%	4.50%	1.10x	1.41x	1.10x	0.76x	1.25x	1.55x	1.40x	1.25x	3	3	4	Global RE
Lone Star Real Estate Fund II	2011	\$ 25.0	\$ 22.2	53	26.74%	20.62%	16.60%	12.83%	1.32x	1.23x	1.04x	0.61x	1.53x	1.70x	1.48x	1.38x	1	1	2	Global RE
Lone Star Real Estate Fund III	2014	\$ 25.0	\$ 23.2	44	19.35%	12.40%	9.38%	1.31%	0.37x	0.13x	0.06x	0.00x	1.27x	1.17x	1.10x	1.01x	1	1	1	Global RE

Infrastructure					IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Commitment	Funding	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
AIRRO	2008	\$ 37.0	\$ 35.7	9	0.14%	11.39%	9.26%	7.32%	0.13x	0.64x	0.50x	0.37x	1.01x	1.56x	1.49x	1.44x	4	4	4	
AIRRO II	2013	\$ 40.0	\$ 7.0	8	-14.80%	---	---	---	0.00x	---	---	---	0.62x	---	---	---	NA	NA	NA	Infrastructure
J.P. Morgan Maritime Fund, L.P.	2009	\$ 50.0	\$ 43.9	3	-24.26%	---	---	---	0.06x	---	---	---	0.60x	---	---	---	NA	NA	NA	Infrastructure
JP Morgan Infrastructure Investments Fund	2007	\$ 37.0	\$ 37.0	7	2.37%	---	---	---	0.33x	---	---	---	1.17x	---	---	---	NA	NA	NA	Infrastructure
LBJ Infrastructure Group Holding, LLC (LBJ)	2009	\$ 50.0	\$ 44.3	3	1.11%	---	---	---	0.04x	---	---	---	1.04x	---	---	---	NA	NA	NA	Infrastructure
NTE 3a-3b	2012	\$ 50.0	\$ 23.8	9	16.03%	23.29%	10.53%	3.87%	1.18x	0.24x	0.14x	0.05x	1.18x	1.46x	1.20x	1.07x	NA	NA	NA	Infrastructure
NTE Mobility Partners Holding, LLC (NTE)	2009	\$ 50.0	\$ 42.6	3	1.18%	---	---	---	0.05x	---	---	---	1.05x	---	---	---	4	4	4	Infrastructure
RREEF North American Infrastructure Fund	2007	\$ 50.0	\$ 50.0	7	12.59%	---	8.10%	---	1.09x	---	0.58x	---	1.09x	---	1.41x	---	2	2	4	Infrastructure

Note:
Benchmark Data from Thomson One/Cambridge Associates as of 9.30.16



NEPC, LLC

To: Trustees & Staff
Dallas Police & Fire Pension System (DPFP)

From: Rhett Humphreys, CFA, Partner
Keith Stronkowsky, CFA, Sr. Consultant

Date: March 9, 2017

Subject: DPFP – current portfolio allocations

BACKGROUND:

Over the past few months the Board has moved to raise cash via manager terminations and additional sales of assets in preparation for potential cash flow needs. More recently, the need for cash has subsided, which has left DPFP with a cash amount higher than the policy target. However, given the uncertainty of future cash needs in the coming months, NEPC feels that it is appropriate for DPFP to hold additional cash assets until there is more clarity on pending issues such as DROP and the outstanding loans that are being renegotiated. In addition, we think it is prudent to maintain market exposure with managers that have previously been approved for liquidation (Ashmore EMD Local Currency, GMO, Putnam) and to rebalance if additional cash is needed.

RECOMMENDATION:

Given the uncertainty around future cash needs in the very near future, NEPC recommends that DPFP maintain its current levels of cash and to remain invested in managers slated for liquidation until there is more certainty around final cash needs.



DISCUSSION SHEET

ITEM #C6

Topic: **Possible sale of Sungate**

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.

Discussion: Sungate is a 36.8 acre tract of land zoned for retail development in Buckeye, AZ. The property was originally purchased as part of the Land Baron portfolio in July of 2005. Staff took over management of the property from Land Baron in August 2014. Cushman & Wakefield has been engaged to market the property for sale.

Staff

Recommendation: **Authorize** the sale of Sungate, subject to the final approval of terms by the Executive Director.



DISCUSSION SHEET

ITEM #C7

Topic: Investment reports

Discussion: Review of investment reports.

Dallas Police and Fire Pension System - Net of Fees

Returns By Category
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Dallas Police And Fire Group Trust	2,135,725,317	100.00	0.24	0.24	0.24	4.53	(2.91)	1.55		01-Jan-1995
Equity	480,739,953	22.51	0.25	0.25	0.25	5.22				01-Jan-2016
MSCI AC 66.7%/EM 16.7%/R3000+3 16.7%			2.89	2.89	2.89	20.50				
Global Equity	160,499,331	7.51	2.95	2.95	2.95	17.59	5.86	9.29		01-Jul-2009
MSCI ACWI			2.76	2.76	2.76	18.60	6.06	9.31		
Private Equity	320,240,622	14.99	(1.02)	(1.02)	(1.02)	(2.72)				01-Jan-2016
Russell 3000 +3%			2.14	2.14	2.14	25.38				
Fixed Income	292,992,160	13.72	1.44	1.44	1.44	14.81				01-Jan-2016
Fixed Income Blended			1.31	1.31	1.31	11.90				
Global Bonds	60,482,623	2.83	1.97	1.97	1.97	4.75				01-Jan-2016
Barclays Global Aggregate			1.13	1.13	1.13	2.35				
High Yield	77,310,144	3.62	2.52	2.52	2.52	28.55				01-Jan-2016
Barclays Global High Yield			1.85	1.85	1.85	18.15				
Bank Loans	56,529,320	2.65	0.61	0.61	0.61	14.55				01-Jan-2016
S&P Leveraged Loan Index			0.14	0.14	0.14	8.88				
EM Debt	38,973,416	1.82	2.37	2.37	2.37	14.84				01-Jan-2016
EM Debt Blended			1.85	1.85	1.85	12.25				
Private Debt	59,696,658	2.80	(0.20)	(0.20)	(0.20)	2.65				01-Jan-2016
Barclays Global High Yield +2%			2.02	2.02	2.02	20.52				

Performance shown is net of manager fees

Dallas Police and Fire Pension System - Net of Fees

Returns By Category
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Global Asset Allocation (GAA)	134,490,877	6.30	0.41	0.41	0.41	12.05	3.96	4.82		01-Jul-2007
GAA Blended			1.74	1.74	1.74	9.60	3.24	4.92		
Absolute Return	37,253,916	1.74	(2.52)	(2.52)	(2.52)					01-Jun-2016
HFRX Absolute Return Index			0.30	0.30	0.30					
Risk Parity	76,601,595	3.59	1.73	1.73	1.73	11.42				01-Jan-2016
MSCI ACWI 60%/Barclays Global Aggregate 40%			2.10	2.10	2.10	11.93				
GTAA	20,635,366	0.97	1.03	1.03	1.03	2.49				01-Jan-2016
MSCI ACWI 60%/Barclays Global Aggregate 40%			2.10	2.10	2.10	11.93				
Real Assets	1,008,929,668	47.24	(0.09)	(0.09)	(0.09)	(2.06)				01-Jan-2016
Natural Resources	264,682,191	12.39	0.06	0.06	0.06	3.06	4.71	6.56		01-Jul-2009
Infrastructure	167,183,600	7.83	0.58	0.58	0.58	(4.25)	(2.31)			01-Jul-2012
S&P Global Infrastructure Index			1.36	1.36	1.36	14.84	4.75			
Real Estate	577,063,877	27.02	(0.36)	(0.36)	(0.36)	(3.57)				01-Jan-2016
NCREIF Property			0.00	0.00	0.00	7.97				
Control/Holding Account	348,572,659	16.32	0.07	0.07	0.07	0.44	0.20	0.19		01-Jan-1994
Merrill Lynch 3 Month US T-BILL			0.05	0.05	0.05	0.37	0.15	0.13	0.76	
Master Loans	(130,000,000)	(6.09)								01-Mar-2014

Performance shown is net of manager fees

Dallas Police and Fire Pension System - Net of Fees

Equity
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Dallas Police And Fire Group Trust	2,135,725,317	100.00	0.24	0.24	0.24	4.53	(2.91)	1.55		01-Jan-1995
Equity	480,739,953	22.51	0.25	0.25	0.25	5.22				01-Jan-2016
MSCI AC 66.7%/EM 16.7%/R3000+3 16.7%			2.89	2.89	2.89	20.50				
Global Equity	160,499,331	7.51	2.95	2.95	2.95	17.59	5.86	9.29		01-Jul-2009
MSCI ACWI			2.76	2.76	2.76	18.60	6.06	9.31		
Eagle Asset Management	99,336	0.00								28-Feb-2005
Mitchell Group	36,390	0.00								01-Nov-2001
OFI	78,747,023	3.69	3.20	3.20	3.20	15.29	4.81	10.68		01-Sep-2007
MSCI ACWI			2.76	2.76	2.76	18.60	6.06	9.31		
Pyramis Global Advisors (Fidelity)	176,775	0.01								01-Apr-2002
RREEF REIT	88,101	0.00								01-Jan-1999
Sustainable Asset Management	53,374	0.00								30-Nov-2008
Walter Scott and Partners	81,298,332	3.81	3.03	3.03	3.03	14.65	6.20	9.26		01-Dec-2009
MSCI ACWI			2.76	2.76	2.76	18.60	6.06	9.31		
Private Equity	320,240,622	14.99	(1.02)	(1.02)	(1.02)	(2.72)				01-Jan-2016
Russell 3000 +3%			2.14	2.14	2.14	25.38				
BankCap Opportunity Fund	0	0.00	0.00	0.00	0.00	2.95	(22.14)			01-Aug-2013
Bankcap Partners	11,848,220	0.55	0.00	0.00	0.00	(2.72)	0.58	(0.10)		01-Feb-2007

Performance shown is net of manager fees



Dallas Police and Fire Pension System - Net of Fees

Equity
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Hudson Clean Energy Partners LP	13,475,752	0.63	0.00	0.00	0.00	(25.04)	(8.01)	(11.72)		01-Aug-2009
Huff Alternative Fund LP	31,971,636	1.50	0.00	0.00	0.00	11.78	2.15	3.87		01-Jun-2001
Huff Energy Fd	131,208,655	6.14	0.00	0.00	0.00	19.14	(13.35)	(2.84)		31-Dec-2006
Industry Ventures Partnership Holdings IV LP	516,441	0.02	0.00	0.00	0.00					15-Jul-2016
Kainos Capital Partners	75	0.00	0.00	0.00	0.00	31.18	20.16			01-Jan-2014
Levine Leichtman Capital Partner IV LP	2	0.00	88.70	88.70	88.70	164.16	45.38	37.13		01-Apr-2008
Levine Leichtman Capital Partners V LP	129	0.00	0.87	0.87	0.87	20.63	15.91			06-Aug-2013
Lone Star CRA Fund LP	60,331,833	2.82	0.00	0.00	0.00	(36.55)	(20.64)	(4.49)		01-Jul-2008
Lone Star Growth Capital	10,750,759	0.50	0.00	0.00	0.00	(15.40)	(12.23)	2.40		31-Dec-2006
Lone Star Opportunities Fund V LP	39,328,102	1.84	0.00	0.00	0.00	(36.23)	(9.95)	10.62		01-Jan-2012
Merit Energy	555	0.00	(36.50)	(36.50)	(36.50)	(51.20)	(22.32)	(12.37)		31-Oct-2004
North Texas Opportunity Fund LP	4,567,930	0.21	0.00	0.00	0.00	(9.49)	(15.20)	(13.84)		01-Aug-2000
Oaktree Power Opportunities Fund III LP	13,276,310	0.62	15.64	15.64	15.64	18.66	16.04	15.32		01-Apr-2011
Pharos Capital	2,849,525	0.13	0.00	0.00	0.00	(51.09)	(17.02)	(6.22)		30-Aug-2005
Pharos Capital Partners III LP	0	0.00	0.00	0.00	0.00	(26.27)	(12.02)			01-Dec-2012
Yellowstone Energy Ventures II LP	114,697	0.01	0.00	0.00	0.00	(12.04)	(42.32)	(33.24)		01-Sep-2008

Performance shown is net of manager fees

Dallas Police and Fire Pension System - Net of Fees

Fixed Income

As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Dallas Police And Fire Group Trust	2,135,725,317	100.00	0.24	0.24	0.24	4.53	(2.91)	1.55		01-Jan-1995
Fixed Income	292,992,160	13.72	1.44	1.44	1.44	14.81				01-Jan-2016
Fixed Income Blended			1.31	1.31	1.31	11.90				
Global Bonds	60,482,623	2.83	1.97	1.97	1.97	4.75				01-Jan-2016
Barclays Global Aggregate			1.13	1.13	1.13	2.35				
Brandywine Investment Management	60,482,623	2.83	1.97	1.97	1.97	5.57	0.97	1.46		01-Jan-2005
Barclays Global Aggregate Index			1.13	1.13	1.13	2.35	(0.16)	0.10	3.51	
High Yield	77,310,144	3.62	2.52	2.52	2.52	28.55				01-Jan-2016
Barclays Global High Yield			1.85	1.85	1.85	18.15				
Loomis Sayles Global Opportunity	77,309,920	3.62	2.62	2.62	2.62	30.37	4.69	7.71		01-Nov-1998
70% Merrill High Yield / 30% JPM Emerging Markets			1.37	1.37	1.37	18.15	5.39	6.53	7.22	
W.R. Huff High Yield	224	0.00								01-Jan-1995
Bank Loans	56,529,320	2.65	0.61	0.61	0.61	14.55				01-Jan-2016
S&P Leveraged Loan Index			0.14	0.14	0.14	8.88				
Loomis Sayles Senior Floating Rate and Fixed Income Trust	56,529,320	2.65	0.61	0.61	0.61	14.55	4.11			01-Nov-2013
S&P/LSTA Leveraged Loan Index			0.14	0.14	0.14	8.88	(0.13)			
EM Debt	38,973,416	1.82	2.37	2.37	2.37	14.84				01-Jan-2016
EM Debt Blended			1.85	1.85	1.85	12.25				
Ashmore Emerging Markets Debt Fund	21,215,458	0.99	2.07	2.07	2.07	14.09	4.03	4.74		01-Jan-2005
JP Morgan EMBI Global Diversified			1.44	1.44	1.44	11.95	6.94	5.88		

Performance shown is net of manager fees

Dallas Police and Fire Pension System - Net of Fees

Fixed Income
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Ashmore Emerging Markets Local Currency Bond Fund	17,757,958	0.83	2.73	2.73	2.73	14.63	(1.51)	(2.32)		01-Mar-2011
JP Morgan GBI-EM Global Diversified			2.25	2.25	2.25	12.31	(1.77)	(2.21)		
Private Debt	59,696,658	2.80	(0.20)	(0.20)	(0.20)	2.65				01-Jan-2016
Barclays Global High Yield +2%			2.02	2.02	2.02	20.52				
Ashmore Global Special Situations Fd 4 LP	5,292,531	0.25	(0.57)	(0.57)	(0.57)	5.79	0.97	(4.89)		01-Oct-2007
Highland Capital Management Note Due 12-31-2017	6,215,935	0.29	0.00	0.00	0.00	4.40	3.35	16.37		01-Dec-2006
Highland Crusader Fund LP	2,554,840	0.12	(5.52)	(5.52)	(5.52)	(10.15)	(9.06)	(2.17)		01-Aug-2003
Levine Leichtman Capital	885,387	0.04	0.00	0.00	0.00	67.77	28.76	9.66		01-Oct-2006
Levine Leichtman Capital Partners PCS II	2	0.00								01-Feb-2012
Lone Star Partners VII LP	2,390,621	0.11	0.00	0.00	0.00	(20.86)	10.83	33.37		01-Jul-2011
Lone Star Fund VIII LP	10,499,717	0.49	0.00	0.00	0.00	(12.71)	13.84			01-Jun-2013
Lone Star Fund IX	24,329,370	1.14	0.00	0.00	0.00	21.06				01-Apr-2015
Oaktree Fund IV & 2x Loan Fund	2,083,842	0.10	2.79	2.79	2.79	5.62	(4.46)	0.22		01-Jan-2002
Riverstone Credit Partners LP	5,444,413	0.25	0.00	0.00	0.00					01-Jun-2016

Performance shown is net of manager fees

Dallas Police and Fire Pension System - Net of Fees

Asset Allocation
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Dallas Police And Fire Group Trust	2,135,725,317	100.00	0.24	0.24	0.24	4.53	(2.91)	1.55		01-Jan-1995
Global Asset Allocation (GAA)	134,490,877	6.30	0.41	0.41	0.41	12.05	3.96	4.82		01-Jul-2007
GAA Blended			1.74	1.74	1.74	9.60	3.24	4.92		
Absolute Return	37,253,916	1.74	(2.52)	(2.52)	(2.52)					01-Jun-2016
HFRX Absolute Return Index			0.30	0.30	0.30					
Bridgewater-Pure Alpha Major Markets	37,253,916	1.74	(2.52)	(2.52)	(2.52)					01-Jul-2016
Risk Parity	76,601,595	3.59	1.73	1.73	1.73	11.42				01-Jan-2016
MSCI ACWI 60%/Barclays Global Aggregate 40%			2.10	2.10	2.10	11.93				
AQR Capital Management	927,465	0.04	0.00	0.00	0.00	77.66	19.62			30-Sep-2013
Bridgewater	40,224,507	1.88	1.39	1.39	1.39	9.35	4.51	4.85		01-May-2007
Putnam Total Return	35,449,623	1.66	2.16	2.16	2.16	9.15	2.12	4.45		01-Dec-2009
GTAA	20,635,366	0.97	1.03	1.03	1.03	2.49				01-Jan-2016
MSCI ACWI 60%/Barclays Global Aggregate 40%			2.10	2.10	2.10	11.93				
GMO	20,635,366	0.97	1.03	1.03	1.03	2.49	0.50	3.93		01-May-2007

Performance shown is net of manager fees

Dallas Police and Fire Pension System - Net of Fees

Real Assets
As of January 2017

Name	Market Value	Allocation	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year	Inception Date
Dallas Police And Fire Group Trust	2,135,725,317	100.00	0.24	0.24	0.24	4.53	(2.91)	1.55		01-Jan-1995
Real Assets	1,008,929,668	47.24	(0.09)	(0.09)	(0.09)	(2.06)				01-Jan-2016
Natural Resources	264,682,191	12.39	0.06	0.06	0.06	3.06	4.71	6.56		01-Jul-2009
Infrastructure	167,183,600	7.83	0.58	0.58	0.58	(4.25)	(2.31)			01-Jul-2012
S&P Global Infrastructure Index			1.36	1.36	1.36	14.84	4.75			
J.P. Morgan AIRRO II	4,476,270	0.21	0.00	0.00	0.00	(17.17)				01-Mar-2014
JP Morgan Global Maritime Investment Fund	25,075,150	1.17	0.00	0.00	0.00	(36.34)	(16.02)	(41.14)		01-Jun-2010
JP Morgan IIF Tax-Exempt LP	30,628,026	1.43	0.00	0.00	0.00	3.59	1.40	4.25		01-Oct-2007
JPM Asian Infrs And Related Resources Oppor Fd	20,032,575	0.94	4.27	4.27	4.27	3.28	0.39	2.85		01-Aug-2008
LBJ Infrastructure Group Holdings LLC	44,346,035	2.08	0.00	0.00	0.00	0.00	0.00	0.00		01-Jun-2010
NTE Mobility Partners	42,625,545	2.00	0.00	0.00	0.00	0.00	0.00	0.00		01-Dec-2009
Real Estate	577,063,877	27.02	(0.36)	(0.36)	(0.36)	(3.57)				01-Jan-2016
NCREIF Property			0.00	0.00	0.00	7.97				

Performance shown is net of manager fees

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DISCUSSION SHEET

ITEM #C8

Topic: 2017 Budget adjustment – Insurance

Discussion: Staff will brief the Board on a change to anticipated expenditures for liability insurance coverage in 2017 as compared to the budgeted amount. Actual quotes were in excess of anticipated amounts. The increase is specific to fiduciary coverage and is related to recent legal filings against DPFP.

	<u>2017 Budget</u>	<u>Proposed Revised Amount</u>
Liability insurance	\$ 372,000	\$ 447,667

Staff

Recommendation: Approve the proposed increase in the budget for liability insurance for 2017.



DISCUSSION SHEET

ITEM #C9

Topic: **CDK Multi-Family Fund**

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.

Discussion: The Board authorized a sale of DPF's interest in the CDK Multi-Family Fund at the October 13, 2016 Board meeting. Staff will provide the Board with an update to the terms of the potential sale.

Staff

Recommendation: **Authorize** the Executive Director to enter into an agreement to sell DPF's interest in the CDK Multi-Family Fund.



DISCUSSION SHEET

ITEM #C10

Topic: Closed Session - Board serving as Medical Committee

Discussion of the following will be closed to the public under the terms of Section 551.078 of the Texas Government Code:

Disability recalls

Discussion:

Staff will present disability pensions for review and consideration by the Board in accordance with Plan Section 6.15. This section provides that the Board may require that certain Pensioners receiving a disability pension (non service-connected) or a periodic disability compensation benefit (service-connected) to appear and undergo a medical examination by the Health Director or, if the Health Director approves, by any licensed medical practitioner, to determine if the Pensioner's disability continues or the Pensioner's condition has improved to the extent that the Pensioner is able to resume duties with the Department.

In accordance with Section 6.15 of the Plan and the Board Disability Recall Policy, Staff has referred the Pensioners for medical examination and review of the Pensioners' disabilities.

Detailed medical reports and recommendations regarding the disability recalls will be available on the network Board drive for review by the Trustees.



DISCUSSION SHEET

ITEM #C11

Topic: Possible revisions to or repeal of certain Board policies

Discussion: The Governance Committee has had several meetings to discuss the complete list of DPFPP policies and whether there is a need to revise or repeal certain of the policies. Board approved policies which are recommended for repeal will be provided prior to the meeting.

Staff

Recommendation: Repeal the polices as recommended by the Governance Committee and staff.



DISCUSSION SHEET

ITEM #C12

Topic: Ad hoc and permanent committee reports

- a. Governance
- b. Professional Services Committee

Discussion: Brief updates will be provided on the Governance ad hoc committee and the Professional Services Committee.



DISCUSSION SHEET

ITEM #C12

Topic: Ad hoc and permanent committee reports

- a. Governance
- b. Professional Services Committee

Discussion: Brief updates will be provided on the Governance ad hoc committee and the Professional Services Committee.



DISCUSSION SHEET

ITEM #C13

Topic: **Business Continuity Review**

Discussion: John Holt, IT Manager, will review the System's Business Continuity Plan. The review will highlight major features of the plan.



DISCUSSION SHEET

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.



DISCUSSION SHEET

ITEM #D2

Topic:

Executive Director's report

- a. Future Education and Business Related Travel
- b. Future Investment Related Travel
- c. Associations' newsletters
 - NCPERS Monitor (February 2017)
 - TEXPERS Pension Observer (Winter 2017)

Discussion:

The Executive Director will brief the Board regarding the above information.

Future Education and Business Related Travel Regular Board Meeting – March 9, 2017

- 1. Conference: Developing Managerial Skills**
Dates: February 13, 2017
Location: Online (MSU)
Est. Cost: \$950.00
- 2. Conference: TEXPERS Basic Trustee Training Class**
Dates: April 8, 2017
Location: Austin, TX
Est. Cost: TBD
- 3. Conference: TEXPERS 28th Annual Conference**
Dates: April 9 – 12, 2017
Location: Austin, TX
Est. Cost: TBD
- 4. Conference: Wharton: Portfolio Concepts and Management**
Dates: May 1-4, 2017
Location: Philadelphia, PA
Est. Cost: \$6,500
- 5. Conference: NCPERS Accredited Fiduciary Program (Modules 1&2 and 3&4)**
Dates: May 20 – 21, 2017
Location: Hollywood, FL
Est. Cost: TBD

- 6. Conference: NCPERS Trustee Educational Seminar (TEDS)**
Dates: May 20 – 21, 2017
Location: Hollywood, FL
Est. Cost: TBD
- 7. Conference: NCPERS 2017 Annual Conference & Exhibition**
Dates: May 21 – 24, 2017
Location: Hollywood, FL
Est. Cost: TBD
- 8. Conference: IFEBP: New Trustee Institute: Level I: Core Concepts**
Dates: June 26-28, 2017
Location: San Diego, CA
Est. Cost: \$3,100
- 9. Conference: IFEBP: Advance Trustee and Administrators Institute**
Dates: June 26-28, 2017
Location: San Diego, CA
Est. Cost: \$3,100
- 10. Conference: TEXPERS 2017 Summer Educational Forum**
Dates: August 13 – 16, 2017
Location: San Antonio, TX
Est. Cost: TBD
- 11. Conference: Wharton: Refresher Workshop in Core Investment Concepts**
Dates: September 24, 2017
Location: Philadelphia, PA
Est. Cost: \$1,000

- 12. Conference: Wharton: Advanced Investments Management**
Dates: September 25-28, 2017
Location: Philadelphia, PA
Est. Cost: \$6,000
- 13. Conference: IFEBP: New Trustee Institute: Level I: Core Concepts**
Dates: October 21-23, 2017
Location: Las Vegas, NV
Est. Cost: \$3,100
- 14. Conference: IFEBP: New Trustee Institute: Level II: Concepts in Practice**
Dates: October 21-22, 2017
Location: Las Vegas, NV
Est. Cost: \$2,700
- 15. Conference: NCPERS Public Safety Employees' Pension & Benefits Conference**
Dates: October 29 – November 1, 2017
Location: San Antonio, TX
Est. Cost: TBD
- 16. Conference: PRB: MET Online Core Training: Benefits Administration**
Dates: Anytime on line
Location: <http://www.prb.state.tx.us/>
- 17. Conference: PRB: MET Online Core Training: Risk Management**
Dates: Anytime on line
Location: <http://www.prb.state.tx.us/>

18. **Conference:** PRB: MET Online Core Training: Ethics
Dates: Anytime on line
Location: <http://www.prb.state.tx.us/>
19. **Conference:** PRB: MET Online Core Training: Governance
Dates: Anytime on line
Location: <http://www.prb.state.tx.us/>
20. **Conference:** PRB: MET Online Core Training: Actuarial Matters
Dates: Anytime on line
Location: <http://www.prb.state.tx.us/>
21. **Conference:** PRB: MET Online Core Training: Fiduciary Matters
Dates: Anytime on line
Location: <http://www.prb.state.tx.us/>

**Future Investment Related Travel
Regular Board Meeting – March 9, 2017**

NONE

In This Issue

2 Executive Directors Corner



NCPERS' 2017 Legislative Conference drew nearly 200 participants to Washington at the end of January for a day of legislative and regulatory briefings, followed by a day of Capitol Hill visits. This is democracy in action.

3 First Month of the New Normal



Everything I've written here is subject to the caveat that it could be rendered inaccurate in the matter of seconds by a tweet from the President of the United States. Welcome to the new normal.

2016 Retirement Systems Study Illustrates Public Pension Fund Strides

It has been said that research is formalized curiosity—poking and prodding with a purpose. Each year, NCPERS members voluntarily submit to a good deal of scrutiny to help create a vivid picture of the state of public pensions.

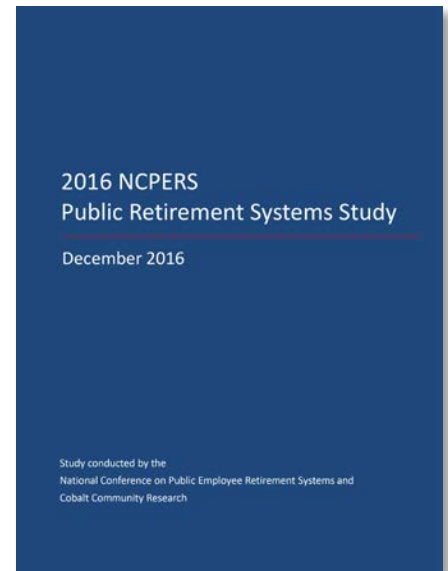
The result is our sixth annual survey, [The 2016 NCPERS Public Retirement Systems Study](#), which was issued in early January. Among this year's key findings were that public retirement systems are improving cost-efficiency, increasing funding ratios, and fine-tuning benefits to strengthen their capacity to serve retired public servants over the long haul. It is one of the most comprehensive surveys involving public retirement systems.

A dashboard that provides interactive access has gone live on the NCPERS website, and is available free of charge to all members. The survey has also generated headlines focusing on the improved health of public pensions.

A total of 159 state, local and provincial government pension funds participated to make the 2016 survey possible. It was conducted between September and November and encompassed funds that represent more than 10 million active and retired members with combined assets exceeding \$1.5 trillion. The majority – 77 percent – were local pension funds, while 23 percent were state pension funds. NCPERS conducted study in partnership with Cobalt Community Research.

Among the key findings:

- During 2016, pension funds squeezed down the cost of administering funds and paying investment managers to 56 basis points, or 56 cents per \$100 invested, versus 60 basis points in 2015. This is well below the average fee of 68 basis points for stock mutual funds and 77 basis points average for hybrid mutual funds, which include stocks and bonds.
- Average funding levels – the value of the assets in the pension plan divided by an actuarial measure of the pension obligation --climbed for the third year in a row. Funding levels reached 76.2 percent in 2016, up from 74.1 percent in 2015 and 71.5 percent in 2014.



[CONTINUED ON PAGE 4](#)



Legislative Conference Attracted 200 To Washington for Briefings and Advocacy

NCPERS' 2017 Legislative Conference drew nearly 200 participants to Washington at the end of January for a day of legislative and regulatory briefings, followed by a day of Capitol Hill visits. This is democracy in action—individuals from across the nation with a set of shared concerns stating their case directly to Congress and the regulatory agencies.

Arriving in Washington at a time of dramatic change in the political landscape, conference-goers gave their full focus to a jam-packed lineup of speakers on Monday, January 30. Keynote speaker Howard Fineman, the editorial director of The Huffington Post, set the scene with a riveting talk on how Washington will function under the 45th President of the United States.

“President Trump is deliberately — and not surprisingly — upending everything about the way Washington has worked in recent years, if not decades,” Fineman said. “We are in uncharted territory.”

He continued, “There are so many questions, but here are a few: Will the Republicans stick with him? Are they even with him now? Will he be able to pass legislation in Congress, even if the GOP does have a majority in both chambers?”

Commenting on the new president's first week in office, Fineman said it's too early to judge whether Trump's unusual approach to governing. “Will his breakneck pace and somewhat confused approach so far help him in the long run? Voters like some of his initial executive orders, but you can't run the country like a real estate deal. Will he accept that? He has exceeded every expectation so far. He could do it again, but he is off to a rocky start — at least as seen from DC.”

Anthony Roda, principal with Williams & Jensen, reviewed the NCPERS legislative agenda for the 115th Congress, which began serving on January 3. Bill Harts, CEO of the Modern Markets Initiative, dissected financial transactions tax initiatives, a tax on Wall Street trades that would have a pernicious impact on Main Street. Bailey Childers, executive director of the National Public



Pension Coalition, provided a state-by-state legislative outlook. Kathryn Bakich, a senior vice president with Segal Consulting, took a hard look at health care reform efforts. And on hand to receive the 2016 NCPERS Policymaker of the Year Award was the Honorable Phyllis Borzi, former Assistant Secretary of Labor for Employee Benefits Security Administration (EBSA). EBSA educates and assists the 149 million

workers, retirees and their families covered by approximately 685,000 private retirement plans, 2.2 million health plans, and similar numbers of other welfare benefit plans holding approximately \$9.3 trillion in assets; as well as plan sponsors and members of the employee benefits community. Ms. Borzi was awarded the Policymaker of the Year award for her leadership in finalizing the Conflict of Interest (fiduciary) and the Secure Choice rules.

Our members can have tremendous impact when they take their story directly to their lawmakers. Some 60 NCPERS members headed to Capitol Hill on Tuesday, January 30, a crisp day with light snow and fog and temperatures stuck in the 30s. They met with legislators from their states and districts as well as the staff

“President Trump is deliberately — and not surprisingly — upending everything about the way Washington has worked in recent years, if not decades. We are in uncharted territory.” — Howard Fineman

[CONTINUED ON PAGE 4](#)

First Month of the New Normal

By Tony Roda

Everything I've written here is subject to the caveat that it could be rendered inaccurate in the matter of seconds by a tweet from the President of the United States. Welcome to the new normal.

Throughout the campaign and leading up to Inauguration Day, now President Donald Trump said repeatedly that he would get right to work in changing public policy and the way in which Washington works as soon as he was sworn into office. While the first 100 days promise to be historically eventful legislatively, the first few weeks are moving the needle significantly on the regulatory front.

Whatever you think of his policy and cabinet choices, the President has kept his word for action with a dizzying series of executive orders, ranging from a federal hiring freeze, Affordable Care Act, international trade, environmental issues, immigration, border security, and the overall regulatory process. The President has also nominated 10th Circuit Court of Appeals Judge Neil Gorsuch to the U.S. Supreme Court. President Trump is meeting regularly with corporate CEOs and also has met with union leaders in the construction trades to establish direct lines of communication on his infrastructure initiative.

Some have described President Trump as a post-partisan politician, whose goal is to reshape the U.S. political system and its traditional alliances and fault lines. Some commentators have said that he ran against and now is governing in opposition to the policies of both President Barack Obama and George W. Bush. You can certainly find examples of each.



Photo illustration © 2017, Depositphotos

For its part Congress has been in almost continuous session since the members were sworn in on January 3. The Senate is moving forward with its advice and consent role on the President's cabinet officials and senior agency staff. However, since President Trump issued his executive order establishing a temporary prohibition on the entry to the U.S of nationals from seven nations said to be compromised by terrorists, bitter disputes have erupted in the Senate and protests continue throughout the country.

The tone and tenor of all of these disputes matter to the overall Congressional agenda and the willingness of the two parties to work together on major legislation. During a recent round of Con-

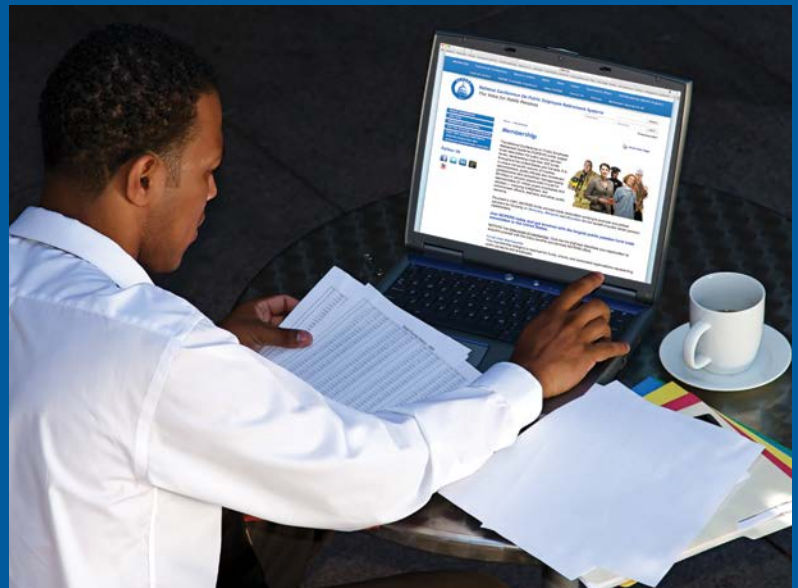
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2016 RETIREMENT SYSTEMS STUDY PAGE 1

- Even as interest rates began to climb, funds continued to tighten assumptions. Almost 40 percent of responding funds said they have reduced their actuarial assumed rate of return, and nearly 30 percent more said they are considering doing so in the future.
- Funds also continued to put pressure on benefits. More than 30 percent of respondents said they have increased employee contributions and raised benefit age or service requirements.
- Funds experienced healthy three-year, five-year and 20-year returns during 2016, close to or exceeding 8 percent. Aggregated 10-year returns came in at 6.2 percent, while one-year returns averaged 1.7 percent. (The one-year figure ticked up to 2.4 percent for plans with fiscal years ending in December.)
- Funds expressed high confidence in their ability to address retirement trends and issues over the next two years. Participants responded with an overall “confidence” rating of 8.1 on a 10-point scale (where 10=very satisfied), reflecting a steady upward march from 8.0 in 2014, 7.9 in 2014, and 7.4 in 2011.

- The average amortization period was 23 years, down almost two years from the 2015 study. Thirty-four percent of the respondents who also responded in 2015 reduced their amortization period between the two periods, by an average of over five years. Almost two-thirds of respondents have a closed, fixed amortization period.

The enthusiastic participation of our members is what makes it possible for NCPERS to tell our story so compellingly and to put a valuable tool in their hands. The study may be downloaded from the NCPERS website or accessed via a website dashboard.

The dashboard, now in its second year, has been freshened up with several new features. For example, almost one-half of the respondents in 2016 also responded in 2015, and it is now possible to isolate repeat participants to view apples-to-apples comparisons. (Data is presented in the aggregate; participants’ identities are confidential.) An NCPERS webinar on how to navigate the dashboard is available on the website. ♦

EXECUTIVE DIRECTORS CORNER PAGE 2

of key committees that oversee public pension issues such as the Senate Finance Committee and Select Committee on Aging, and the House Ways & Means Committee..

For each year’s Legislative Conference, we produce a concise booklet on NCPERS’ legislative priorities, and it is now available on the NCPERS website. Whether you were able to attend the conference or not, this booklet is an excellent resource for your interactions with elected officials, and I urge you to consult it frequently.

For 2017, we have identified the following priorities:

With respect to tax reform and retirement savings, NCPERS supports maintaining the current tax treatment of pension contributions and does not support reductions in the annual contribution limits. NCPERS opposes the annuity accumulation retirement plan and the Public Employee Pension Transparency Act, and will continue to provide input to the Treasury Department, the IRS, and Congress on employer pickups of employee pension contributions. In other areas, NCPERS:

- Will closely monitor all legislative and regulatory work on the Affordable Care Act. NCPERS supports full repeal of the 40 percent excise tax.
- Opposes expanding mandatory Social Security coverage to noncovered state and local governmental employees.
- Supports and will work toward enactment of the Healthcare Enhancement for Local Public Servants (HELPS II).
- Supports allowing retirees and employees near retirement to roll over assets from a governmental plan, such as a 401(a),

403(b), 457(b), or deferred retirement option plan, into a qualified medical trust or voluntary employee beneficiary association (VEBA) for the sole purpose of purchasing health care in retirement.

- Supports legislation to allow retired public safety officers to opt into Medicare at age 55.
- Supports the DOL regulations that provide a safe harbor for Secure Choice plans and opposes efforts to repeal or revise those rules.
- Supports the direction of Treasury Notice 2012-29 and the proposed regulations on the normal retirement age and will work with the Trump Administration’s Treasury Department and IRS on final regulations.
- Will work with the Trump Administration’s Treasury Department and IRS as they develop proposed regulations on the definition of what constitutes a governmental plan.

My deepest appreciation goes out to all the members and speakers who made the 2017 Legislative Conference a success. Member engagement is the cornerstone of an effective organization, and NCPERS members showed once again that they have the drive and commitment to help drive our organization forward. We will undoubtedly face serious challenges in the new political environment, and we will have to safeguard hard-won victories. But when you have a good story to tell, you have to keep telling it, and public pensions have a truly great story. We are the guardians of a secure retirement for millions of public servants who have labored on behalf of their fellow citizens, and we have much to be proud of. ♦

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FIRST MONTH OF THE NEW NORMAL PAGE 3

gressional meetings during the NCPERS legislative conference, we heard repeatedly from Democratic offices that they are being kept in the dark on tax reform and the replacement to the Affordable Care Act. One staff person referred to tax reform as a “black box.”

While bipartisanship is conducive to enacting durable federal law, the use of the budget reconciliation process allows the majority party in Congress to work its will by simple majority. Reconciliation is a special budget enforcement process authorized by the Budget Act that is given expedited consideration in the Senate and, more importantly, requires only a majority vote in the Senate as opposed to the 60-vote threshold needed to stop debate on other legislation.

In previous Congresses NCPERS and the public pension plan community were successful in keeping problematic legislation, such as the Public Employee Pension Transparency Act (PEPTA) and the annuity accumulation plan proposal, from being approved by Congress. We have to continue this defensive battle in the current Congress.

We must also pay increasing attention to the Executive Branch agencies and departments where newly-appointed government officials may look for creative ways to negatively impact public pension plans.

There will be few dull moments in the upcoming months. Please know that NCPERS will keep its members informed as developments warrant. ♦

Tony Roda is a partner at the Washington, D.C. law and lobbying firm Williams & Jensen, where he specializes in legislative and regulatory issues affecting state and local pension plans. He represents NCPERS and individual pension plans in California, Ohio, Tennessee and Texas.

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PENSION OBSERVER

THE OFFICIAL PUBLICATION OF THE TEXAS ASSOCIATION OF PUBLIC EMPLOYEE RETIREMENT SYSTEMS

A Public Alternative to Private Equity

By Gene B. Neavin, CFA

It may go against conventional wisdom, but there's a strong case to be made for investing in the stocks of leveraged companies. Not only have they outperformed private equity over time, but they also add diversification and present high-yield bond managers with a unique opportunity to generate alpha. We believe a portfolio of leveraged company stocks can complement existing equity portfolios, or serve as an attractive alternative to private equity.



Leveraged Company Stocks

Leveraged companies are not new or exotic — high yield bonds have been around for decades, leveraged loans are a booming asset class, and investors readily pay “2 & 20” to invest in the privately owned equity of leveraged companies. But the biggest, most liquid piece of these very same capital structures is often overlooked and misunderstood by investors — publicly traded stocks.

The universe of companies with leveraged balance sheets is large and diverse. According to the Credit Suisse Leveraged Equity Index, there are over 640 companies with high-yield credit ratings that issue public stock, which at the end of 2015 was valued at \$2.6 trillion. A common misconception is that a high-yield credit rating is the result of weak underlying

(Continued on page 10)

Capturing Alpha from Non-Traditional Sources

By Habib Subjally

Many people who have managed portfolios over decades feel that there has been too much change. Others think there hasn't been enough.

When I first started in the industry there was a substantial return to hard work and diligence. If one was willing to gather all the accounting data of a group of companies and analyze it, one could identify patterns in financial performance. Assuming persistence of these trends, one could predict future results and hence drive outperformance.

However, technology has made financial data commoditized. In addition, what used to take days to process and analyze can now be achieved in a matter of seconds. The process of financial analysis has been industrialized.

This has spawned a new breed of portfolio manager. The quant manager will process a huge amount of

financial information on a vast number of companies in a fraction of a second.

This has led many asset owners, consultants and advisors to believe that markets are now highly efficient. However, data suggest that there remains a huge variation in share prices. The problem is that the stock picking investment community has failed to turn this variation into consistent outperformance.

In my opinion such variation derives from

intangible or non-financial data. These intangible data include things like corporate culture, employee and customer engagement,



effectiveness of R&D and a willingness to place a high degree of importance on ESG factors. These are typically long-term intangible assets that can have a short-term financial cost, but will pay off handsomely

over the longer term. These intangible assets are hardly ever found in the report and accounts. Information on them is hard to access, assimilate and conclude upon. But they are nonetheless a very powerful predictor of long-term financial performance.

(Continued on page 5)

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STATE CAPITAL REPORT

By Alicia H. Munnell

Dallas Police and Fire Pension Plan Problems Caused by Extraordinary Decisions

The Dallas Police and Fire Pension Plan has received a lot of press attention recently. My view is that the situation is extraordinary and says little about what is going on with state and local pensions generally. It is a story of wild investments that produced large losses and a very large Deferred Retirement Option Plan (DROP). A DROP is an arrangement under which employees entitled to retire continue working and have their monthly benefit deposited in a notional DROP account where it earns interest and can be taken out as a lump sum.

As a result of poor investment policy — started renting it out for as much as and consistent underfunding, the Dallas \$15,000 per night to recoup some of its Police and Fire fund operating costs. went from having enough assets to cover 72 percent of its liabilities in January 2011 to having only 45 percent in January 2016. Subsequently, in 2016, when the DROP participants caught wind of talks to reduce their benefits, they took notice of the steep decline in asset values and started withdrawing their money, exacerbating the problem. The funded ratio at this point probably stands at around 35 percent.

The investment problems stem from 2006 when the Board decided to diversify its investment strategy to reduce the risks associated with equities. These diversified investments included luxury homes in Hawaii, student housing in Texas, and raw land in Idaho and Colorado.

A *Dallas Morning News* expose in 2013 describes one of the Hawaiian homes as consisting of six buildings, a championship golf course, two infinity pools, a sculpture garden and a large entertainment pavilion. In 2013, it had been on the market for five years with no one willing to pay the asking price of \$22 million, so the fund — which managed these investments internally

Some commentators imply that the Dallas Police and Fire Pension Plan is the tip of the iceberg in terms of public plan investment problems. The data suggest otherwise. Dallas has 68.4 percent of its assets in alternatives and real estate compared to an average of 21.8 percent for our sample of 160 state and local plans.

Returns initially looked good, in large part because the properties had not been regularly appraised and, in some cases, improvements and operating costs had been added to their original value. Once the assets were revalued, the losses were evident.

Some commentators imply that the Dallas Police and Fire Pension Plan is the tip of the iceberg in terms of public plan investment problems. The data suggest otherwise. Dallas has 68.4 percent of its assets in alternatives and

real estate compared to an average of 21.8 percent for our sample of 160 state and local plans. It has the highest ratio of alternatives and real estate of any plan in the nation; the next closest competitor is Texas County & District Plan at 53.5 percent.

My sense is the Dallas Police and Fire DROP is also extraordinary. As noted, a DROP allows employees entitled to retire to continue working and have their monthly benefits deposited in a notional DROP account where they earn interest. The Dallas Police and Fire DROP stands out for a number of reasons. First, only 16 percent

(Continued on page 11)

PRESIDENT'S CORNER

By Paul R. Brown

Fight Attacks on Pensions, Mobilize Friends in the Legislature and Foster New Relationships Before Lobbying Specific Bills. Communicate!

Many feel that much of the cynicism and distrust surrounding government exists because “the story” has not been properly told. When the occasional and sometimes frequent media reports surface, the tone is usually critical. The pension crisis across America involves a series of political issues. We face a steep challenge on preserving our defined benefit systems for generations to come. The pension crisis consists of funding and low investment returns year after year.

The second crisis is our politics, with major national right-wing organizations becoming deeply rooted in day-to-day politics. The complete destruction of defined benefit plans has long stood at the top of their mission statements. By spending millions of dollars in political races, those groups have begun to wield tremendous power in the halls of our state capitals. Should we be concerned or is it an idle threat, when public officials talk of shutting down pension plans for all new employees? The leaders of local pension funds must meet the challenges head on, and exercise political strategy in spite of political risks in making the difficult changes to their pension funds to preserve them.

Being strong is what gives us the power and influence that ensures a secure retirement for our members. Protecting our unified voice and greater influence also means securing the resources needed to raise our voices when our pension systems are threatened. We need an aggressive initiative that includes social media by all our affiliates that features for example a Facebook ad campaign. All of us must promote plan benefits and vigorously highlight how successful our local systems can be— especially through the political process, when everyone works together.

The elections are over, so how do we get our leaders to put political partisanship and distrust behind them and come together? How can we disagree and still find common ground around the big issues that matter to our members? We have to be willing to step into someone else's

shoes in order to have constructive dialogue regarding very serious issues facing our pension funds.

U.S. Rep. Sam Johnson, R-Plano, has filed a Social Security cuts bill, as reported by *Talking Points Memo*. Johnson chairs the Social Security subcommittee of the powerful U.S. House Ways and Means Committee.

And so it begins.

Johnson's bill would gradually raise retirement age from 67 to 69 for Americans who are 49 or younger at present; it would change the formula that determines the size of a retiree's initial benefits; and it would switch the program to a less generous formula for raising payments according to cost of living increases.

Read more: <http://talkingpointsmemo.com/dc/republican-bill-social-security-cuts>

There is information that in 2018, the mortality tables will be updated, which may impact actuarial evaluations and projected unfunded liabilities. We will most likely see white papers from right-wing think tanks, followed by newspaper editorials and ultimately pension legislation detrimental to post-employment security. We all must prepare to fight any attacks on our pensions and mobilize our friends in the legislature along with fostering new relationships before we are lobbying specific bills.

Let's be practical in our politics and remember that communicating is vitally important.

The complete destruction of defined benefit plans has long stood at the top of their mission statements. By spending millions of dollars in political races, those groups have begun to wield tremendous power in the halls of our state capitals.

EXECUTIVE DIRECTOR'S COLUMN

DB opposition is...negatively politicizing pensions as an important legislative item.

There has been increasing focus on public pensions during the last couple of legislative sessions. This year is turning out to be the same and may be even more difficult. The efforts of the John Arnold Foundation (LJAF) and the Texas Public Policy Foundation (TPPF) are ensuring that the Legislature is fully aware of any difficulties that exist in any of public fund in Texas. At this point Dallas and Houston are spotlighted, but don't think that those are the only funds being targeted. Those two funds are being used to convince the public and elected state officials that there is a universal problem and the only solution is to replace ALL public plans with defined contribution (DC) plans. They promote a misleading story and grossly magnify any negatives while carefully avoiding disclosing the huge expense and continued cost that closing a DB plan will entail.

The best way to counter negative stories is to educate our local elected officials about our plans and boards. Make sure your elected official is fully informed and confident that your plan funding is under control, and clarify that the pension issue is not a statewide issue, but unique only to very few particular cities.

The effort to move pensions out of statute and put them under local control would require local voter approval. The organizations (LJAF & TPPF) see a ripe opportunity to capitalize on what's happening in Dallas and Houston to boost their campaigns statewide. But the DC promoters aren't focusing on just one or two cities. We can't take continuing state control for granted and must become proactive. Get out there and speak with your local representatives in the Legislature...often enough that they know your face and name when they see you. Share the true facts with them and keep repeating.

The DB opposition is vigorously and negatively politicizing pensions as an important legislative item. The fact is that the majority of pensions in Texas are funded and managed well and the few with problems are resolving them at the local level. Keep your local elected officials informed and don't assume everything is okay because no one has called you. *Be proactive. Be diligent. Be persistent. The future of your plan may depend on you.*

Listed vs. Private Infrastructure: Why Not Both?

By James Clark, CFA

Investing in listed infrastructure may provide benefits that make a strong case for a larger allocation to listed markets relative to private investments than is currently observed by institutional investors. Historically, institutional investors have preferred direct or unlisted infrastructure investments within this asset class. However, investing in listed infrastructure may provide benefits such as:

- Broader diversification by country, sector, and holding
- Asset liquidity that facilitates portfolio rebalancing
- Temporary market mispricing that the active portfolio manager can seek to exploit

- Access to many high quality infrastructure assets that are not offered on the private market

These advantages and more make a strong case for a larger allocation to listed markets relative to private investments than is currently employed by institutional investors.

Listed Infrastructure Can Serve as a Complement

Infrastructure assets in general are becoming more familiar to investors, and are being used increasingly as part of a global asset allocation. This is due in large part to the compelling characteristics of the infrastructure assets themselves. Investors usually cite three primary reasons for preferring unlisted infrastructure: superior returns, lower volatility and lower correlations. However, these perceived advantages may not be as compelling as some believe and there may be a strong case for global listed infrastructure as a stand-alone or as a complement to private infrastructure investing.

Access to High Quality Projects

Due to global privatization initiatives, many mission-critical infrastructure assets throughout the world are operated by companies rather than governments and are available for investment only through the listed companies on the publicly traded markets.

Ownership Structure Does Not Provide a Return Advantage

Investors typically require compensation for illiquidity, which is why there is an assumed return advantage in the unlisted marketplace. However, over a long time horizon, there should be no return advantage or disadvantage based solely on the ownership structure of the asset. For example, the owner or operator of a toll road has rights to the cash flows from the asset, whether it is held via an unlisted direct equity stake or a stake in a publicly listed corporate entity. However, it is difficult to measure this thesis due to the absence of unlisted return data.

According to the CFA Institute, “Despite growing interest in the infrastructure asset class, no standard exists for benchmarking the performance of unlisted infrastructure investments.”¹

Stale Pricing Dampens Volatility and Correlation Measures

Lower measured volatility and correlations for unlisted investments makes private asset ownership appear attractive to investors. Theoretically, these characteristics lead to increased diversification within a portfolio for an improving risk/return profile. However, we believe these benefits are overstated due to the smoothing effects of infrequent, appraisal-based valuation methodologies on returns. This “stale pricing”

Investors usually cite three primary reasons for preferring unlisted infrastructure: superior returns, lower volatility and lower correlations. However, these perceived advantages may not be as compelling as some believe...

dampens volatility measures. *Global Investments*, published by the CFA Institute, states: “The infrequent nature of price updates in the



alternative asset world induces a significant downward bias to the measured risk of the assets. In addition, correlations of alternative investment returns with conventional equity and fixed income returns, and among the alternatives, are often close to

zero or even negative, because of the smoothing effect and absence of market observable returns.”²

In Summary

Long-term returns or benefits inherent to these assets should pass through to the investor, regardless of the format or ownership structure. Likewise, the perceived benefits of lower correlation and standard deviation measures may be overstated, due to the effect of smoothed returns that are a function of appraisal-based valuation methodologies. Again, the benefits of listed investing are reduced concentration risk through broader diversification by country, sector, and holding, asset liquidity that facilitates portfolio rebalancing, and temporary market mispricing that can be taken advantage of by active portfolio managers. ➔

By James Clark, CFA, is Senior Vice President, Client Portfolio Manager at Nuveen Asset Management, LLC in Chicago, Illinois. Nuveen Asset Management, LLC is a registered investment adviser and an affiliate of Nuveen Investments, Inc.

¹ *Investment Performance Measurement. Benchmarks for Unlisted Infrastructure: Part 1, Bachher, Orr, and Settle. CFA Institute 2012.*

² *Global Investments, Sixth Edition, Bruno Solnik and Dennis McLeavey, CFA, CFA Institute. ©Copyright 2009 by Pearson Education.*

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Capturing Alpha from Non-Traditional Sources

By Habib Subjally
(Continued from page 1)

These are alpha sources that asset owners are not accessing but can play a very valuable part in their portfolios. Indeed, the outperformance derived from non-financial sources is idiosyncratic in nature and has a low correlation to more traditional systematic, quantitative sources. If you like, they are a different flavor of outperformance, or true alpha, and so including these alpha sources can diversify the return stream of a portfolio.

While this might sound attractive, there are of course significant practical challenges. These fall into two categories:

- First, alpha generation. One needs a philosophy, process, tools, skills and

expertise to gather and collate the relevant information, analyze it and then draw conclusions from it. Given that this information is non-standard, not necessarily comparable, consistent or complete, the task of drawing relevant conclusions from it is far from trivial.

- Second, alpha capture. Identifying a group of companies that is likely to produce superior long-term financial results is one thing. Combining them into a portfolio that outperforms due to these alpha sources is another challenge altogether. Correlations between stocks will cause unintended concentrations which may lead to large positive or negative returns that may overwhelm the alpha associated from good stock

picking. Hence it is critical to have an alpha capture framework that is able to isolate the impact of these alpha sources and to control the impact of unintended systematic exposures.

In conclusion, just as the outperformance potential from financial data has been industrialized by computers and quantitative algorithms, I believe there are a number of alternative sources of alpha that are available to the stock picker to drive outperformance. These alpha sources are non-financial in nature and are powerful catalysts of long-term financial results. Accessing and analyzing these alpha sources requires a philosophy, process and team that are sensitive to this non-traditional information: employing these different skills and expertise while efficiently capturing this alpha is an added challenge. ➔

Habib Subjally, Senior Portfolio Manager and Head of Global Equities at RBC Global Asset Management, is based in London.

These alpha sources are non-financial in nature and are powerful catalysts of long-term financial results. Accessing and analyzing these alpha sources requires a philosophy, process and team that are sensitive to this non-traditional information...

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DC Plans Need More Global Leanings

By Charles Roth

As more pre-retirees face potential shortfalls in their retirement savings, observers often cite a lack of appreciation for the changing global investing arena as a big reason behind this growing problem. Especially lacking are DC plan investment options with global equity and fixed income exposure, despite the measurable benefits it can offer.

Beyond Basic Allocation

At the end of 2013, about 63% of participants in their 20s had no exposure to equity funds in their accounts, while 48% of all participants had none, according to an ICI and EBRI study. Plan allocation funds may seem designed to help them stretch diversification, but most fall short of the goal. Unless custom built, they typically exhibit “home bias,” and only offer heavy exposure to U.S. markets at the expense of investing overseas, where economic growth and development of capital markets have opened up immense opportunities.

Consequently, many DC plan participants have little direct exposure to foreign equities or debt, the global pool of which continues to deepen profoundly. According to Vanguard’s “How America Saves”

survey, just 29% of record-keeper’s DC plan clients have emerging-market equity funds in their menus, and only 2% of participants used them. And while 97% are offered international equity funds, just 24% of participants invested in them.

Why Go Global

While the U.S. still boasts the globe’s biggest economy and deepest capital market, the world has rapidly evolved over recent decades. Back in 1970, the U.S. share of global stock market capitalization stood at a towering 66%, according to the MSCI Index.

At year-end 2014, its share amounted to just under half the total.

Meanwhile, the U.S. portion of global economic output stood at 26% in 1980, while that of emerging markets and developing countries was 25%, and that of China—now the world’s second largest economy—was just 2.8%. Fast forward to 2015, and the U.S. share has shrunk to an estimated 23%, while emerging markets and developing countries now account for some 39% of world gross domestic product, while China’s economy has since grown almost five-fold to 13% of global GDP.

Beef Up the Menu

Some may argue that U.S. investors can obtain overseas economic exposure simply by investing in U.S. funds focused on companies within the S&P 500 Index, as roughly half of their revenues come from foreign markets. But DC plan participants can’t get sufficient

exposure to overseas growth and diversification benefits through investing solely in U.S. large-capitalization stocks. Rather, DC portfolios can better derive such benefits, including lower potential correlation with U.S. markets, through dedicated global equity, international value, international growth, and emerging market funds, as well as strategic global fixed income funds.


Plan sponsors would clearly do well by participants in examining their menus and drilling down into the components of their target-date and other allocation funds. Many may find they should broaden and balance their investment

line-ups to reflect today’s global opportunities. If plan sponsors and their fiduciaries include more non-U.S. and global debt and equity options in plan menus, plans can then be designed to use those funds so participants gain suitable access to a broader array of asset classes that are currently lacking.

Providing Global Directions

DC plans have evolved rapidly over the last three decades, and the rise of automatic enrollment and auto-escalation plans have become key factors in the retirement security equation. Balanced funds, particularly Target Date Funds, have helped workers save for retirement more than default investments into a capital preservation plan.

But DC plan participants should today have the ability to take advantage of opportunities across the globe and not be limited to those at home. It’s more than likely to happen, as reasons for adding overseas and global options become more compelling and DC plan advisors direct more attention to them.

As the long-term outlook for Social Security darkens, the effectiveness of DC plans for retirement security is becoming ever-more critical. Globalization gives rise to deeper overseas capital markets and a growing share of global GDP among emerging markets. That’s why plan advisors and fiduciaries can add enormous value with the development of education policy statements and programs that incorporate the importance of global investing, given the risk diversification and potential return benefits. 

Charles Roth is Global Markets Editor at Thornburg Investment Management in Santa Fe, NM.

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Increasing Popularity of Global Equity Strategies Explained

By Ricardo Bekin

Obviously there has been quite a bit of volatility across all markets, and global equities haven't been immune as evident in the MSCI World index. Still, we're seeing a lot of interest from institutional investors that want exposure to global equities and this is being driven by a number of factors.

Chief among those, is that increasing the breadth a portfolio's investable universe generally has a positive influence on risk-adjusted portfolio returns. Beyond operating in a more expansive investment universe, the increased market volatility available across markets also improves the opportunity set for active managers.

There are other factors as well. If you hire one experienced global equity manager, operating an active investment strategy, the manager can opportunistically tilt between developed and emerging markets, move into different sectors, market capitalizations, countries, and even styles, be it growth, value or momentum stocks. From the investor's perspective, it's far more efficient than paying for and monitoring a number of separate managers to gain exposures to the same areas of the market. Moreover, it is difficult to capitalize on short-term opportunities at the plan level, at least not quickly enough to access all of the upside potential available. Hiring a separate tactical asset allocation manager (TAA) is costly and not all plans have a large enough staff to successfully implement and monitor a TAA overlay.

When deciding where to spend on active

management fees, global managers have been more successful in beating the index, as the trend lines below show. In 2008, the index was ranked near the 70th percentile for both US and Global managers, meaning over 70% of active managers were beating the index. By 2015, about 80% of global active managers were beating the index, while about 40% of US managers were beating the index. We viewed rolling 3 year ranks to be fair, as many active managers are expected to outperform the index over a 3 year period.

Even though investor flows into active global equity mandates have more than tripled over the last decade, the number of managers offering global mandates is dwarfed by U.S. equity mandates. This is because achieving access to global breadth adds a layer of complexity. With over 40,000 stocks worldwide, for instance, we have to consider country-specific costs of capital, forecasted regional growth rates and indirect economic revenue exposures. For those investing through multiple fund managers, this can create overexposures that might be hard to detect. For example, owning Apple, a U.S. stock, may create a high indirect exposure to China, which your separate emerging market fund manager is not considering.

Even though U.S. markets have significantly outperformed Non-US markets recently, as global quantitative easing winds down, many Emerging and European markets appear to be undervalued, according to our models, and we have seen many institutional investors reducing their exposure to U.S. equities. We believe the

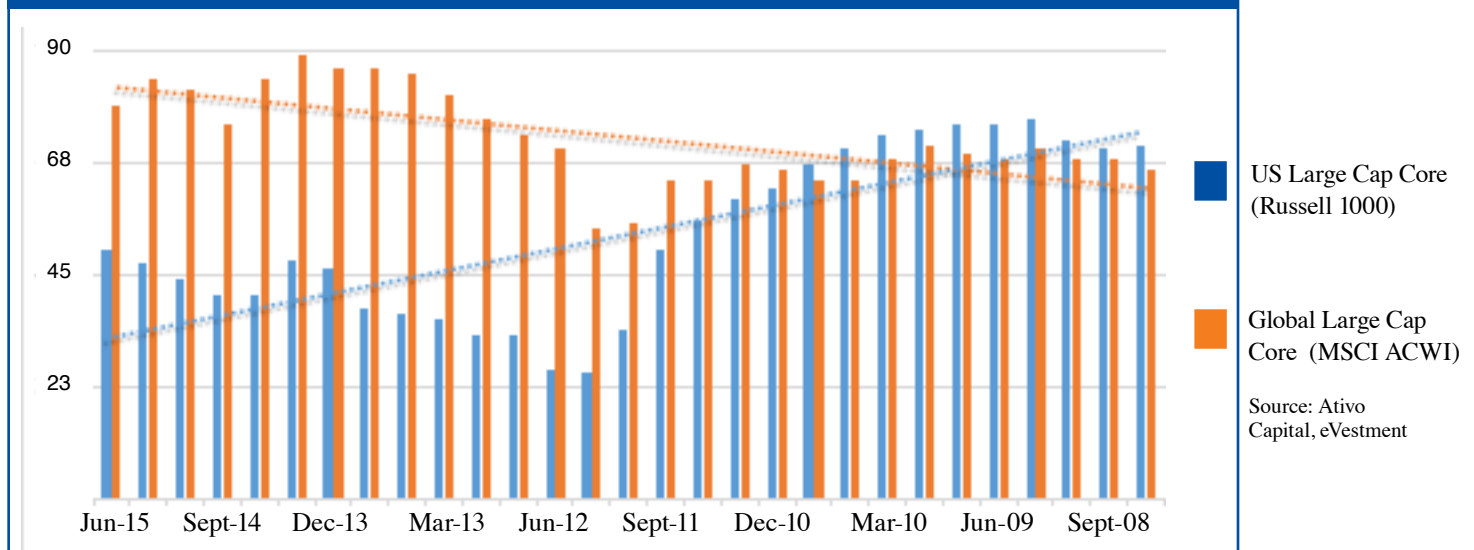


long term structural story of Emerging Markets remains intact and many developing and frontier economies will continue to have significantly higher levels of growth than their developed counterparts. Countries such as India, Indonesia and Mexico currently

have large young populations and will drive global growth and consumptions trends for decades to come. Longer term, we are excited about the potential Europe can unlock, once it becomes better integrated and is truly a union. Looking at the horizon, we are also excited about the growth in countries such as Nigeria, Ghana and Saudi Arabia. Being able to quickly move in and out of these markets, when an exploitable opportunity presents itself, is key. Thus, it is not a surprise that more investors are slowly recognizing the benefits of global equity. An allocation to an effective active global equity mandate can increase net of fee returns and help instill efficiency at the plan level. 🇺🇸

Richard Bekin, Founder, CIO at Ativo Capital Management, LLC in Chicago, IL.

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Pension Funding Diversifiers: Private Credit and Other Specialty Strategies

By Ralph Divino and Matt Toms

Pension funded status has been under attack due to the structural confluence of lower mortality rates, weaker equity markets of late and persistently low interest rates. With these strong forces at play, it's highly likely plan sponsors will increase efforts to de-risk their funds in order to address the potentially higher funded status volatility. Many plans have implemented some de-risking, typically using a combination of long corporate and/or government bonds. There is a limited supply of high-quality long-dated corporate bond issues available, posing a challenge for plans seeking to avoid issue concentration. (See below.)


In a portfolio context, these potential problems could be mitigated by employing new forms of pension diversification. Several active asset classes have been considered for this purpose, including private credit, commercial mortgage loans, and some securitized and

agency mortgage bonds. Private credit (direct lending) is comprised of primarily investment grade, fixed-rate corporate debt sold only to institutional investors and not subject to SEC registration. Functionally, a private placement is a hybrid of a public bond (a fixed interest rate and term length) and a traditional bank loan (greater upfront due diligence, higher priority in the capital structure, extensive financial covenants and a more intensive ongoing relationship with each borrower). Thanks to a higher upfront yield offered by private credit as compensation for smaller deal sizes and lower liquidity, a plan sponsor can potentially achieve better risk-adjusted returns over a credit cycle by incorporating these assets. Moreover, private credit constitutes a diversification opportunity alongside long-duration public bonds since many companies that choose private financing do not borrow in the public market.

Also known as commercial whole loans, commercial mortgages are secured by a first mortgage on an income-producing property. Revenues are collected in the form of rent paid by the tenant/occupants of the commercial

properties; since rents often increase with inflation, they provide a hedge against rising prices. Interest and principal payments on whole loans are made monthly, enhancing yield relative to other fixed income and equity real estate investments. Mortgages generally provide yield protection through make-whole covenants, while fee and servicing income also adds to total income.

Certain portions of the securitized markets continue to trade with attractive credit spreads relative to competing fixed income assets while offering attractive yields at relatively short durations. Meanwhile, less interest rate risk relative to other sectors makes the securitized credit asset class less sensitive to value declines from rising rates. While securitized credit products are most often regarded as shorter duration, commercial mortgage-backed securities and residential mortgage-backed securities can provide longer-duration opportunities.

The primary benefits of the cash flows from long-duration agency MBS include high credit quality (with explicit or implicit government guarantee), low capital requirements (for certain institutions), competitive spreads/yields and possible low correlation to credit assets. These instruments come in different names or styles and may be available as either discount or premium securities, allowing enhanced yield/spreads or possibly decreased correlation to other assets. 

Ralph Divino is Head of Fixed Income Portfolio Specialists in NY, NY; and Matt Toms is CIO, Fixed Income in Atlanta, GA. Both are with Voya Investment Management.

Barclays U.S. Long Corporate Index (460 Total Issuers)

Available Supply of High-Quality Long Corporate Bonds Is Meager

Rating	AAA	AA	A	BBB
# of Securities	10	41	154	255

Source: Barclays, Voya Investment Mgmt.; Data as of 12/31/16



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A Public Alternative to Private Equity

By Gene B. Neavin, CPA
(Continued from page 1)

business fundamentals. While true in some cases (“fallen angels”), for most companies a high-yield credit rating is an intentional choice...the benefits of a leveraged balance sheet [can]more than outweigh its costs, and targets an optimal capital structure to maximize shareholder value.

History of Strong Performance

Leveraged company stocks have delivered strong historic returns. They have outperformed the stocks of less leveraged companies and have even outperformed private equity.

This strong performance is underpinned by solid academic theory: debt can create shareholder value when used responsibly, and according to the Capital Asset Pricing Model, as a higher beta segment of the stock market, leveraged company stocks may outperform the broader stock market.

A common misconception is that a high-yield credit rating is the result of weak underlying business fundamentals. While true in some cases (“fallen angels”), for most companies a high-yield credit rating is an intentional choice...the benefits of a leveraged balance sheet [can]more than outweigh its costs, and targets an optimal capital structure to maximize shareholder value.

As expected, volatility of leveraged company stocks is higher than the broad market, but similar to the historically higher yet more volatile returns of high-yield bonds compared to their investment-grade counterparts.

Unique Opportunity to Generate Alpha

This segment of the stock market is comprised of stocks that are often overlooked and misunderstood by equity investors, and possesses traits generally found in inefficient markets.

- They are underfollowed Wall Street analysts and investors tend to favor large cap stocks, exciting growth stories and strong balance sheets. By contrast, the universe of

leveraged company stocks generally consists of micro-, small- and mid-cap stocks in mature industries with complex, risky and

“junk”-rated balance sheets. This disconnect means the stocks of leveraged companies typically receive less Wall Street coverage than more mainstream stocks.

- They are complex

Debt introduces an additional layer of complexity for equity investors. It is not uncommon for a leveraged capital structure to consist of 10 or more debt securities, each with distinct pricing, call/put features, maturities, covenants and security and guarantee packages.

- And there is an information advantage... High-yield analysts are specialists in evaluating and investing in leveraged companies. They possess a unique skillset— experience in bottom-up fundamental analysis integrated with a deep understanding of credit and capital structures. It is their ability to perform this intensive level of credit research and evaluation that distinguishes high-yield analysts from their equity-analyst counterparts.

...that creates an opportunity to generate alpha

By thoroughly analyzing a company’s entire capital structure, high-yield analysts are in a position to generate alpha by identifying

(Continued on page 11)

Leveraged Company Stocks Have Outperformed Private Equity

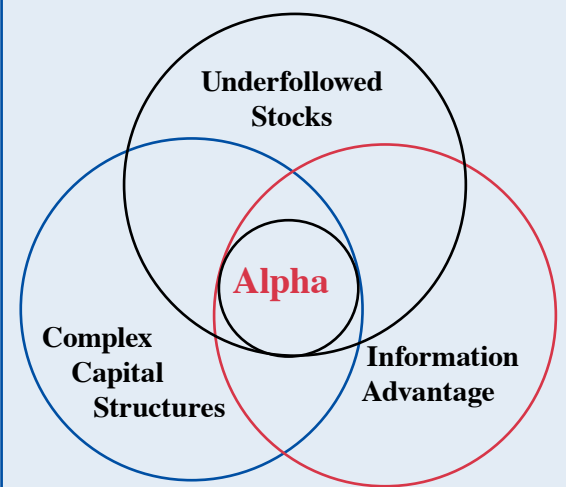
Period	ex. Fincl	Private Equity
3 Year	25.5%	15.6%
5 Year	20.3%	15.8%
10 Year	12.7%	12.9%
15 Year	12.4%	10.9%
20 Year	14.4%	13.5%
25 Year	13.4%	13.5%

As of 12/31/14

Source: Furey Research Partners and Cambridge Associates. Private Equity is represented by the Cambridge Associates LLC U.S> Private Equity Index pooled end-to-end and net of fees and expenses.

Past performance is no guarantee of future results. For illustrative purposes only and representative of performance for any specific investment.

Opportunity to Generate Alpha



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A Public Alternative to Private Equity

By Gene B. Neavin, CPA
(Continued from page 10)

capital structure catalysts that create or destroy equity value before they become apparent to the equity community. These catalysts may include debt refinancings, deleveraging or bankruptcy triggers.

Diversifier


A portfolio of leveraged company stocks adds two unique sources of diversification to an existing equity allocation.

- *Offset to the 'Strong Balance Sheet' Bias*

Many equity managers follow conventional wisdom. They target companies with strong balance sheets and avoid leveraged companies. A portfolio of leveraged company stocks can offset this bias.

- *LBO-like Sector Weightings*

The underlying businesses of leveraged company stocks are very similar to the types of businesses targeted by private equity in leveraged buyouts. This is because in order to obtain a high level of debt at

reasonable rates, a borrower is generally required to possess solid underlying business fundamentals, including stable and predictable free cash flow, a leading and defensible market position, attractive growth opportunities, potential for credit improvement, low-maintenance reinvestment needs and tangible assets. 

Gene B. Neavin, CPA, is Vice President, Portfolio Manager and Senior Investment Analyst at Federated Investors in Pittsburg, PA.


Leveraged equity is subject to the same risks as general equity securities. The value of equity securities will fluctuate and, as a result, share prices may decline suddenly or over a sustained period of time. In addition, equity securities issued by corporations that issued non-investment grade rated debt (i.e. leveraged equity securities) may be more volatile than non-leveraged equity securities.

State Capital Report

By Alice H. Munnell
(Continued from page 2)



of state plans and 37 percent of local plans have DROPs. Second, almost 100 percent of Dallas Police and Fire employees participate in the DROP, and the DROP has no limit on how long they can participate. As a result, DROP participants account for a large portion of the workforce. Third, until 2014, the DROP paid interest of 8.5-9.0 percent on its balances. As a result of the pattern of participation and interest rates, the Dallas Police and Fire DROP balances accounted for 56 percent of plan assets in January 2016. That is, more than half of plan assets are available for immediate withdrawal, which seriously exacerbates the plan's financial problems. As a stop-gap measure, on December 8 the board voted to halt further withdrawals from the DROP until next month's board meeting.

In short, the Dallas Police and Fire situation is an extreme case and tells us little about public plans in general. 

Alice H. Munnell is Director of the Center for Retirement Research at Boston College in Boston, MA.

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In short, the Dallas Police and Fire situation is an extreme case and tells us little about public plans in general.

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