AGENDA

Date: November 4, 2016

The regular meeting of the Dallas Police and Fire Pension System Board of Trustees will be held at **8:30 a.m. on Thursday, November 10, 2016, in the Second Floor Board Room at 4100 Harry Hines Boulevard, Dallas, Texas.** Items of the following agenda will be presented to the Board:

A. MOMENT OF SILENCE

B. CONSENT AGENDA

1. Approval of Minutes

a. Regular meeting of October 13, 2016
b. Special meeting of October 18, 2016, 1:00 p.m.
c. Special meeting of October 18, 2016, 6:00 p.m.
d. Special meeting of October 20, 2016

2. Approval of Refunds of Contributions for the Month of September 2016

3. **Approval of Activity in the Deferred Retirement Option Plan (DROP) for November 2016**

4. **Approval of Estate Settlements**

5. **Approval of Survivor Benefits**

6. **Approval of Service Retirements**

7. **Approval of Alternate Payee Benefits**

8. **Approval of Payment of Military Leave Contributions**

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. **Appointment of Interim Police Pensioner Trustee**

2. **Emerging managers**

3. **Monthly and quarterly investment reporting**

4. **Investment reports**

5. **Quarterly financial reports**

6. **Plan amendment election update**

7. **Legislative update**

8. **Recognition of Former Trustee**

9. **Potential Investment Policy Statement changes**

10. **Discussion and approval of the 2017 Budget**

11. **2017 Board meetings**

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

    a. Society of Pension Professionals
    b. NCPERS Accredited Fiduciary Program Modules 3 & 4
    c. NCPERS Public Safety Conference
    d. Texas for Secure Retirement Symposium
    e. Society of Pension Professional Annual Summit
    f. TEXPERS Basic Trustee Training Class
    g. PRB meeting

13. **Ad hoc committee report**

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

15. NEPC: Second Quarter 2016 Private Markets & Real Assets 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. DROP update
b. Future Education and Business Related Travel
c. Future Investment Related Travel
d. Associations' newsletters

- TEXPERS Outlook (November 2016)

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.

DALLAS POLICE & FIRE PENSION SYSTEM

ITEM #A

MOMENT OF SILENCE

In memory of our Members and Pensioners who recently passed away

(October 6, 2016 – November 2, 2016)

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Jack B. Cobb	Retired	Police	Sep. 19, 2016
Jack T. Hearn	Retired	Police	Oct. 5, 2016
Arthur P. Willis	Retired	Police	Oct. 5, 2016
Kenneth R. Strader	Retired	Fire	Oct. 6, 2016
J. T. Alexander	Retired	Fire	Oct. 7, 2016
Warren Horton, Jr.	Retired	Police	Oct. 14, 2016

Dallas Police and Fire Pension System
Thursday, October 13, 2016
8:30 a.m.
4100 Harry Hines Blvd., Suite 100
Second Floor Board Room
Dallas, TX

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

ROLL CALL

Board Members

Present at 8:30	Samuel L. Friar, Kenneth S. Haben, Joseph P. Schutz, Brian Hass, Erik Wilson, Tho T. Ho, Gerald D. Brown, Clint Conway, John M. Mays
Present at 8:33	Jennifer S. Gates
Present at 8:34	Philip T. Kingston
Present at 9:14	Scott Griggs
Absent:	None

Staff	Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Corina Terrazas, Damion Hervey, Pat McGennis, Christina Wu, Linda Rickley
Others	Chuck Campbell, Jeff Williams, Bohdy Hedgcock, John Turner (by telephone), Jason Jordan, Ben Mesches, A. D. Donald, Sammy Rankin, Tommy R. Buggs, Alan D. Johnson, Jerry M. Rhodes, Joel Lavender, Mitchell Smith, Dan Wojcik, Jim Aulbaugh, Michael Aylward, David Dodson, Ken Sprecher, Joe D. Miller, Michael Otto, Alan Shelton, Tom Moore, Michael Jones, Delores Brown, Hoyt Hubbell, David Williams, Elizabeth Reich, Steve Alexander, Mike Heimbuch, Lori Brown, Larry Villapando, Jason Lee, Edward Scott, Tristan Hallman, Ashleigh Barry, Chris Bowers, Ken Kalthoff

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

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A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of retired police officers B. J. Edington, William P. Mann, James D. Wood, Ira J. McKee, Doyle G. Bice, Wilford R. Nunn, and retired firefighters W. L. Lindsay, Jr., Jerry D. Speaks, and L. M. Crocker.

No motion was made.

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B. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of September 8, 2016
Special meeting of September 26, 2016

2. Approval of Refunds of Contributions for the Month of September 2016

3. Approval of Activity in the Deferred Retirement Option Plan (DROP) for October 2016

4. Approval of Estate Settlements

5. Approval of Survivor Benefits

6. Approval of Service Retirements

7. Approval of Alternate Payee Benefits

8. Approval of Payment of Military Leave Contributions

9. Approval of Payment of DROP Revocation Contributions

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

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C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. Plan amendment election

a. Further consideration of proposed Plan and DROP Policy changes, including potential proposed changes from the City of Dallas
b. Approval of proposed Plan language
c. Actuary's letter
d. Election schedule
e. Call for election

The Board went into a closed executive session – legal at 8:34 a.m.

The meeting was reopened at 9:46 a.m.

John Mays resigned his position as Police Pensioner Trustee at 9:07 a.m. Mr. Mays left the meeting at 9:09 a.m.

The meeting was recessed at 9:46 a.m.

The meeting was reconvened at 9:54 a.m.

The Board discussed proposed Plan and DROP Policy changes. Jeff Williams of Segal Consulting, DPFP's Actuary, was present for the discussion. The Board gave staff direction with respect to further changes to the proposed Plan amendment and directed staff to come back with final language for the Board's approval at a special meeting to be held on October 20, 2016.

Mr. Haben made a motion to receive and file Segal Consulting's letter regarding the impact of the proposed Plan amendment and DROP Policy changes. Mr. Ho seconded the motion, which was unanimously approved by the Board.

The meeting was recessed at 11:37 a.m.

The meeting was reconvened at 11:48 a.m.

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

The meeting was reconvened at 1:00 p.m.

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Mr. Wilson left the meeting at 12:55 p.m.

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2. Actuary's letter pursuant to Section 4.01(a) of the Plan

The Board went into a closed executive session – legal at 1:31 p.m.

The meeting was reopened at 1:44 p.m.

Segal presented their conclusions regarding the impact of the payment of the 2017 proposed budgeted costs.

After discussion, Mr. Brown made a motion to authorize the Executive Director to send a letter to the City Manager making the City aware of the Actuary's letter regarding DPFP's 2017 administrative expenses, which are projected to be approximately $36 million, pursuant to Section 4.01 of the Plan. Mr. Ho seconded the motion, which was unanimously approved by the Board. Mr. Wilson was not present when the vote was taken.

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3. Legal issues

a. Police Officer and Firefighter pay lawsuits
b. Potential claims involving fiduciaries and advisors
c. 2014 Plan amendment election and litigation
d. Open records lawsuit

The Board went into a closed executive session – legal at 1:00 p.m.

The meeting was reopened at 1:17 p.m.

No motion was made.

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4. Proposed 2016 Budget adjustments

a. Legal
b. Actuarial
c. Election

Ms. Loveland discussed with the Board the proposed 2016 Budget adjustments.

4. Proposed 2016 Budget adjustments (continued)

After discussion, Mr. Kingston made a motion to approve the proposed increases in the legal, actuarial and election budget categories for 2016. Mr. Brown seconded the motion, which was unanimously approved by the Board. Messrs. Griggs and Wilson were not present when the vote was taken.

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5. Presentation and discussion of the 2017 Budget

Ms. Loveland discussed with the Board the proposed 2017 Budget.

After discussion, Mr. Conway made a motion to authorize the staff to address any proposed budget amendments, present the amended budget to the Board at the November 10, 2016 Board meeting, and post the amended budget to www.dpfp.org for member review prior to the November meeting. Mr. Schutz seconded the motion, which was unanimously approved by the Board. Mr. Wilson was not present when the vote was taken.

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The meeting was recessed at 2:08 p.m.

The meeting was reconvened at 2:16 p.m.

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6. CDK Multi-Family Fund

The Board went into a closed executive session – real estate at 2:26 p.m.

The meeting was reopened at 2:33 p.m.

Mr. Brown made a motion to authorize the Executive Director to enter into an agreement to sell DPFP's interest in the CDK Multi-Family Fund. Mr. Haben seconded the motion, which was unanimously approved by the Board. Messrs. Griggs and Wilson were not present when the vote was taken.

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7. Clarion Partners: 1210 South Lamar

The Board went into a closed executive session – real estate at 2:16 p.m.

The meeting was reopened at 2:25 p.m.

After discussion, Mr. Brown made a motion to authorize Clarion Partners to consummate the sale of DPFP's interest in the 1210 South Lamar property, subject to the final approval of terms by the Executive Director. Mr. Haben seconded the motion, which was unanimously approved by the Board. Mr. Wilson was not present when the vote was taken.

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8. Determination of Handicap Status of Dependent Child

The Board went into a closed executive session – medical at 2:55 p.m.

The meeting was reopened at 3:17 p.m.

The Board requested follow-up information with respect to the benefits claim.

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9. Investment reports

Staff reviewed the investment performance and rebalancing reports for the period ending September 30, 2016 with the Board.

No motion was made.

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10. Employee recognition – Third Quarter 2016

Employee of the Quarter award

Mr. Friar and Ms. Gottschalk presented a performance award for Employee of the Quarter, Third Quarter 2016, to Cynthia Reyes, Receptionist.

No motion was made.

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

a. PRB Actuarial Committee Meeting
b. Pensions Committee Hearing

11. Board Members' reports on meetings, seminars and/or conferences attended (continued)

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

a. PRB Actuarial Committee Meeting

Ms. Gottschalk

b. Pensions Committee Hearing

Messrs. Friar, Haben, Hass, Mond, and Ms. Gottschalk

No motion was made.

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12. Ad hoc committee report

No report was given.

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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 heard member and pensioner comments.

2. Executive Director's report

a. Future Education and Business Related Travel
b. Future Investment Related Travel
c. Associations' newsletters
- NCPERS Monitor (September 2016)
- NCPERS Monitor (October 2016)
- NCPERS PERSist (Fall 2016)
- TEXPERS Outlook (September 2016)
- TEXPERS Outlook (October 2016)

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

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Haben and a second by Mr. Brown, the meeting was adjourned at 3:29 p.m.

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Samuel L. Friar
Chairman

ATTEST:

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Kelly Gottschalk
Secretary

Dallas Police and Fire Pension System
Tuesday, October 18, 2016
1:00 p.m.
El Centro College, Bill J. Priest Campus
1402 N. Corinth St.
Dallas, TX

A quorum of the Board was not present; therefore, no meeting of the Board was held.

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Samuel L. Friar
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

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Dallas Police and Fire Pension System
Tuesday, October 18, 2016
6:00 p.m.
El Centro College, Bill J. Priest Campus
1402 N. Corinth St.
Dallas, TX

A quorum of the Board was not present; therefore, no meeting of the Board was held.

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Samuel L. Friar
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

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Dallas Police and Fire Pension System
Thursday, October 20, 2016
9:00 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 9:02 a.m.	Samuel L. Friar, Kenneth S. Haben, Joseph P. Schutz, Brian Hass, Jennifer S. Gates, Erik Wilson, Gerald D. Brown, Clint Conway
Present at 9:13 a.m.	Scott Griggs
Present at 9:24 a.m.	Tho T. Ho
Absent:	Philip T. Kingston
Staff	Kelly Gottschalk, Josh Mond, Summer Loveland, John Holt, Damion Hervey, Pat McGennis, Carol Huffman
Others	Chuck Campbell, Deborah Brigham (by telephone), Jeff Williams (by telephone), Jerry M. Rhodes, David Dodson, Jerry Miller, Jim Aulbaugh, Ron Acker, Michael Aylward, George D. Payne, Ken Sprecher, Lori Brown, Wally Guerra, Edward Scott, Elizabeth Reich, Tristan Hallman, Tanya Eiserer, Matt McNer

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The meeting was called to order at 9:02 a.m.

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

1. Plan amendment election

a. Further consideration of proposed Plan and DROP Policy changes
b. Approval of proposed Plan language
c. Election schedule
d. Call for election

1. Plan amendment election (continued)

The Board went into a closed executive session – legal at 9:40 a.m.

The meeting was reopened at 10:09 a.m.

a. After discussion, Mr. Haben made a motion to eliminate the Required Annual Distribution (RAD), effective January 1, 2017, for members and spouses, but not for non-spouse beneficiaries if the Plan Amendment is adopted by the members. Mr. Conway seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Hass made a motion to revise the Plan language for the proposed Plan Amendment regarding DROP (Active) as follows: a 6-month transition period is allowed for the deferral maximum for members with 10+ years in Active DROP as of the amendment effective date. Mr. Conway seconded the motion, which was passed by the following vote:

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

b. After discussion, Mr. Conway made a motion to approve the Plan language for the proposed Plan amendments and the ballot package, including the cover letter, the ballot, all as revised and all subject to final approval of the Executive Director and Counsel. Mr. Brown seconded the motion, which was unanimously approved by the Board.

c. After discussion, Mr. Brown made a motion to approve the election schedule. Mr. Haben seconded the motion, which was unanimously approved by the Board.

d. After discussion, Mr. Brown made a motion to call for the Plan Amendment election. Mr. Ho seconded the motion, which was unanimously approved by the Board.

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2. Appointment of Interim Police Pensioner Trustee

Police Pensioner Trustee John Mays resigned his Board position on October 13, 2016; therefore, the Police Pensioner Trustee position is vacant. Mr. Mays' term was to expire in less than one year on May 31, 2017. Section 3.01 (d) of the Plan states "If a vacancy occurs among the Pensioner Trustees, and one year or less remains before the end of the Trustee's term, the Board shall appoint a new Trustee from the Pensioners who retired from the same Department to serve for the period ending on the expiration of the elected Pensioner Trustee's term.

The Chairman appointed a sub-committee comprised of the Active Police Trustees to review the submissions of interest for the Interim Police Pensioner Trustee position on the Board. The sub-committee will bring the finalist candidate(s) to the November Board meeting.

No motion was made.

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. Brown and a second by Mr. Haben, the meeting was adjourned at 10:26 a.m.

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Samuel L. Friar
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

DISCUSSION SHEET

ITEM #C1

Topic: **Appointment of Interim Police Pensioner Trustee**

Discussion: Police Pensioner John Mays resigned from the Board, effective on October 13, 2016. The Plan requires the Board to appoint a police retiree to the open position to serve the remainder of the term, which ends on May 31, 2017. A sub-committee of the Board interviewed those who submitted a letter of interest. The Board will meet with a short list of candidates at the November 10 meeting.

DISCUSSION SHEET

ITEM #C2

Topic: **Emerging managers**

Attendees: Keith Stronkowsky, Senior Consultant

Discussion: The Board requested staff and NEPC to provide additional research to the Board regarding the possible establishment of an Emerging Manager policy for DPFP's due diligence and investment selection process. Staff and NEPC have researched various industry-wide definitions for "emerging manager" and possible methods to implement a program for DPFP. Staff and NEPC will present their considerations for the program.

Generally, the definition of an emerging manager is a manager with total assets under management (AUM) (as opposed to assets in any particular strategy) of below a given threshold, such as $1-$2 billion in assets, and/or a manager who is qualified as a Minority or Woman Owned Business Enterprise (MWBE). The definition varies widely among plans.

Staff Recommendation: Include at least one emerging manager in each manager search conducted in the future and ask the IAC to recommend minimum and maximum thresholds for a firm's AUM to define emerging managers, both with respect to total AUM and AUM with respect to the strategy under consideration.

NEPC, LLC

YOU DEMAND MORE. *So do we.*SM

DALLAS POLICE & FIRE PENSION SYSTEM

Emerging Manager Program: Implementation Considerations

November 10, 2016

Rhett Humphreys, CFA, Partner
Keith Stronkowsky, CFA, Sr. Consultant
Mike Yang, Research Consultant

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | www.nepc.com
BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | SAN FRANCISCO

Emerging Managers & Programs

- March 2014, NEPC presented a tutorial on Emerging Managers and Emerging Manager Programs
- The tutorial focused on:
  - Definition
  - Program Rationale
  - Potential Benefits/Risks
  - Access & Implementation Options
- The board has requested that NEPC develop a recommendation on how DPFP might best be able to broaden its investment manager roster to proactively and potentially include emerging managers

- Emerging Manager (EM) defined:
  - Asset under management typically less than $2 billion, but in many cases, to qualify as emerging, asset levels are less than $500 million
  - Start up firms may have no assets under management
  - Firms typically have less than a three-year track record
  - Smaller firms are frequently women and minority-owned
    - Qualified minorities include African-American, Native American, Eskimo, Asian-American, Hispanic, Portuguese and Cape Verdean
  - Not all EMs are minority and women-owned firms, however

- Emerging Manager Program:
  - Policy driven
  - By Assets: formalized effort to employ smaller, qualified investment managers
    - Lower threshold for assets under management
    - Shorter track records
  - By Ownership: can be narrowed to define Emerging Managers by a specified % as Minority or Women Owned (MWBE)

- Belief that talented/smaller firms can produce greater alpha and, therefore, are beneficial to include in investment programs

- Firms may be too small to establish competitive marketing programs as larger firms

- May not fare well in conventional consultant searches
  - Short track records
  - Small asset base
  - Few clients

- **Business Risk:**
  - Potential that firm may not succeed, particularly with a start-up
    - Failure to grow the business
    - Insufficient capital to survive the start-up period
    - Insufficient capital to acquire the necessary infrastructure, technology and back office procedures for compliance, trading and disaster recovery systems

- **Investment Risk:**
  - Possibility that the firm may not deliver on the performance objectives
    - Absence of technology, resources, software to implement the strategy
    - Insufficiency of security evaluation systems

- **Organizational Risk:**
  - Inability of investment professionals to work together
  - Inability to acquire and maintain qualified investment and business development staff
    - Ownership, growth, succession planning

- Three primary strategies to access Emerging Managers:

  A. Direct Equity Investment

  B. Fund-of-Funds Approach

  C. Hire Managers directly

  - Select managers on a case-by-case, search-by-search basis
  - Policy Driven:
    – Define what an EM is…broadly or narrowly
    – Compare to current policy/process
  - Policy change options
    1) Designate a percentage of portfolio assets for investments in EM firms
    2) Require, as appropriately-qualified, EM firms to be included in each search
    3) Broaden quantitative search criteria to 'cast a wider net'
    4) Simply require information in search books delineating definitional criteria (e.g., % Minority/Women Owned)

Current Policy and Process

Section II. Design, Goals, and Objectives

Staff and the Consultant(s) are expected to deliver excess return beyond the Policy Benchmark[1] through manager selection and asset allocation adjustments. By achieving allocation and performance objectives consistently, the long term investment goals of DPFP are expected to be achieved.

A. Goals

1. Ensure funds are available to meet current and future obligations of the plan when due while earning a long-term, net of fees investment return greater than the actuarial return assumption.

2. To consistently rank in the top half of the public fund universe over the rolling three-year period, net of fees.

B. Objectives

1. To maintain a diversified asset allocation;

2. To provide for an appropriate risk adjusted rate of return;

3. To allow for both passive and active investment management;

4. To monitor quarterly manager performance;

5. To monitor monthly asset allocation changes;

6. To outperform the Policy Benchmark over rolling three year periods;

7. To control and monitor the costs of administering and managing the investments;

8. Establish guidelines and procedures for selecting, monitoring and replacing investment vehicles; and

9. Re-evaluate annually the policies defined in this IPS.

Appendix B

The public market Investment Manager screening criteria include:

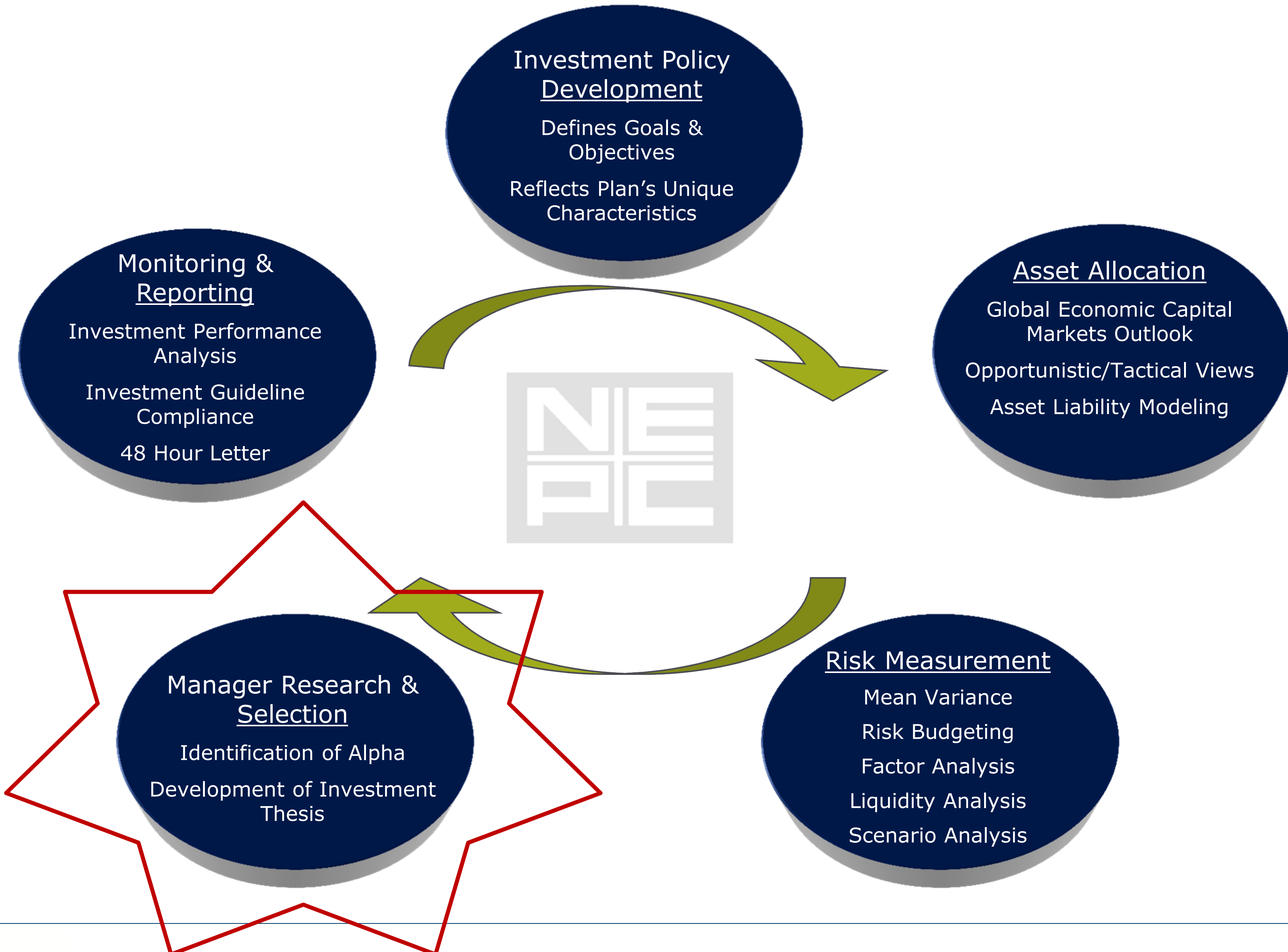
1. Lead portfolio manager tenure/experience at least 5 years.
2. Firm level assets under management: 75 million or more under management.
3. Investment style should consistently match what is approved and outlined in the Investment Manager's guidelines, and will be compared and analyzed against peers/sub-asset class category.
4. Sharpe ratio generally would exceed .3, which may not be possible following a prolonged bear market in that respective market, and must exceed 50% of its peer group over a three year rolling period.
5. Three year rolling total return, on a net of fee basis, must exceed 50% of its peer group.
6. On site due diligence meeting is recommended.
7. Fiduciary acceptance and acknowledgement.

The private Investment Manager screening will focus on the key areas of:

1. Alignment of Interests: management fees and expenses, carry/waterfall, term of fund, General Partner commitment.
2. Governance: team, investment strategy, fiduciary duty, Limited Partner Advisory Committee responsibilities and makeup, changes of the fund.
3. Transparency: risk management, financial information, disclosure related to the GP, management and other fees.
4. Track Record: the firm or lead portfolio manager should have a track record of at least 5 years.
5. Performance: a majority of previous funds should rank in the top 50% of their vintage year and strategy fund universe.

NEPC Research Process: Traditional Managers

Our Process – Managing a Plan



NEPC's Traditional Asset Research Process

Universe Screening

- Developed by asset class and style
- **Minimum acceptable criteria for inclusion, minimum asset levels and track records**

Quantitative Scoring

- Identification of candidates for further research through scoring all passing strategies
- Strategies scored using proprietary PASS tool to analyze alpha-only net of fees historical performance

Qualitative Research

- Articulation of NEPC Investment Thesis for each strategy – the fundamental drivers of a strategy's ability to delivery quality active performance
- Review of organization, key decision makers, investment process, risk controls, and investment thesis

Peer Review

- Rigorous review from Asset Class Advisory Groups and Due Diligence Committee for each strategy considered for Focused Placement List
- Ongoing monitoring at firm and strategy level for all products

NEPC Quantitative Screens

Product Screens by Asset Class		
Asset Class	Min. Track Record	Min. AUM ($M)
Global Equity	3 Years	$300
Int'l Equity	5 Years	$500
Emerging Mkts Equity	3 Years	-
US Small Cap	3 Years	-
Int'l Small Cap	3 Years	$100
Core/Core+ Fixed Income	3 Years	$300
Short Duration FI	3 Years	$150
High Yield	3 Years	$150
EMD	3 Years	-
GFI	3 Years	-

Note: *Defining emerging managers by AUM is done so at the firm level, not product level. A DPFP policy directive aimed at capturing EMs by AUM should define this at the firm level, then allow for a due diligence process that would vet and qualify underlying products.*

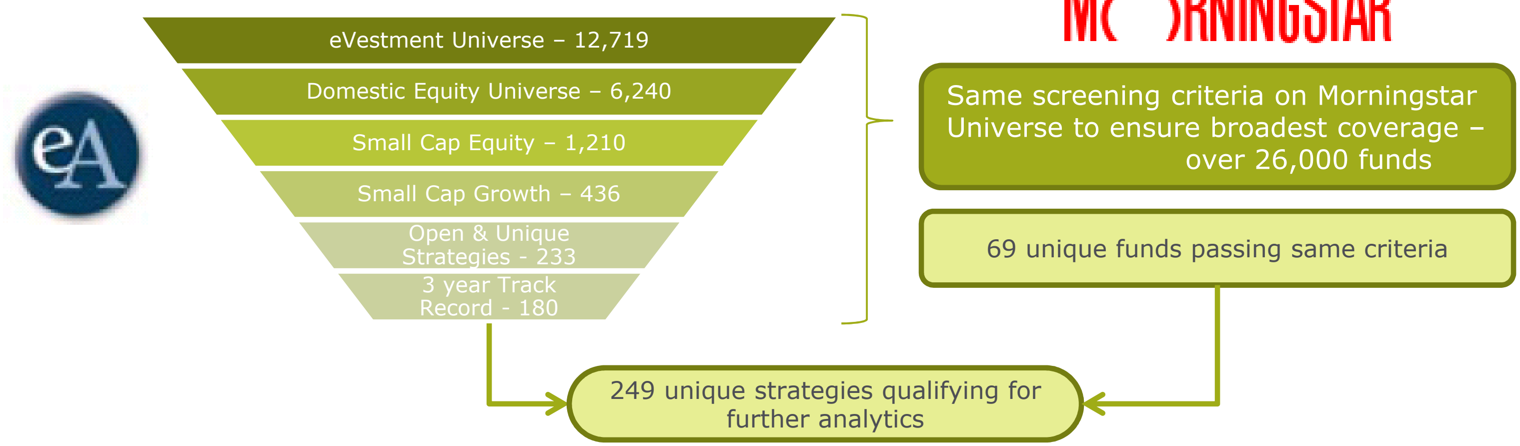
NEPC Universe Screening – Small Cap Growth Example

- **eVestment Alliance and Morningstar screened to capture comprehensive universe of strategies in each asset class and investment style**

- **Minimum criteria used to focus research**
  - Track record
  - Assets under management

- **Criteria adjusted for each asset class based on competitive landscape**

Example: Small Cap Growth

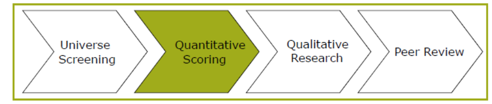


- **Proprietary PASS tool (Performance Analytics Statistical Software) used to systematize quantitative analysis**

- **This software isolates net-of-fees alpha, removing market/index performance**
  - Attractive strategies will have consistent net-of-fees performance at reasonable levels of active risk (tracking error)

- **Each strategy scored on variety of excess return statistics**
  - Rolling metrics used to minimize end-point sensitivity
    - Statistical significance of alpha
    - Rolling alpha greater than certain hurdles
    - Upside/Downside Capture
    - Information Ratio
    - NEPC Score on quality of investment thesis and firm stability

- **Scoring channels Research focus to strategies demonstrating ability to deliver excess returns over long term**



NEPC Traditional Research - SMALL CAP CORE - NETTING 07/15/10

	Managers	CONTRARIAN INDICATOR	ROLLING 3 YR. RTR. - % >0	ROLLING 3 YR. RTR. - % >X%	AVG. 3 YR. INFORMATION RATIO	IR * SQRT LENGTH OF RECORD	UPSIDE MKT CAPTURE	DOWNSIDE MKT CAPTURE	FIRM/TEAM STRUCTURE/STABILITY	TOTAL SCORE
		EVALUATION CRITERIA - DATA								
	Assigned Weights	5%	5%	10%	15%	20%	5%	10%	30%	1-100
1	Manager 1	0.04	86%	58%	0.63	1.92	86%	72%	5	86
2	Manager 2	0.18	82%	67%	0.58	2.40	125%	100%	5	85
3	Manager 3	0.03	92%	79%	0.73	1.52	93%	79%	5	85
4	Manager 4	(0.02)	77%	65%	0.57	2.31	98%	81%	5	84
5	Manager 5	0.12	88%	68%	0.87	2.82	91%	72%	3	73
6	Manager 6	(0.03)	81%	24%	0.42	2.16	104%	96%	5	73
7	Manager 7	0.34	###	100%	1.14	1.89	100%	70%	2	70
8	Manager 8	0.05	89%	61%	0.87	2.27	104%	89%	3	70
9	Manager 9	0.20	97%	89%	0.71	2.51	100%	70%	2	70
10	Manager 10	0.33	82%	75%	0.95	3.16	106%	78%	2	70
. . .		. . .						. . .		
172	Manager 172	(0.05)	20%	8%	(0.60)	(1.25)	93%	99%	3	21
173	Manager 173	(0.02)	0%	0%	(0.69)	(1.23)	87%	96%	3	20
174	Manager 174	(0.10)	31%	2%	(0.53)	(1.81)	87%	98%	3	19
175	Manager 175	(0.04)	18%	0%	(0.91)	(2.00)	95%	107%	3	18

NEPC Qualitative Research – Developing an Investment Thesis

- **Deep, qualitative research to identifying strategy's investment thesis**
  - Strategies scoring well in PASS
  - Strategies identified previously by research team and reasons for poor scoring are well understood

- **An investment thesis is the identification and articulation of a manager's "competitive edge"**
  - A set of beliefs regarding the security pricing mechanism and what it is about that mechanism which affords the opportunity to add value
  - A set of beliefs about the manager's competitive advantage in exploiting these opportunities
  - A thesis about how these beliefs can be exploited to generate alpha

- **A belief in a strategy's investment thesis is forward-looking and leads to a view on the ability to generate future outperformance**
  - Differentiating true investment skill from "noise"

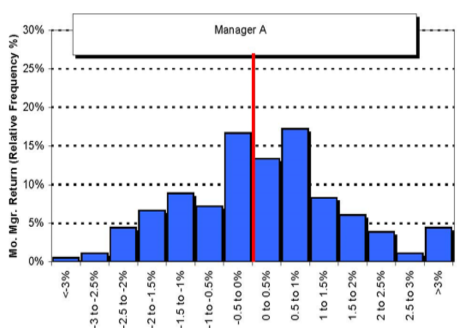
- **Through meetings with lead portfolio manager, investment team and further quantitative analysis, we develop views on each strategy's key characteristics**
  - Organization/People
  - Investment Philosophy
  - Investment Process
  - Performance Expectations

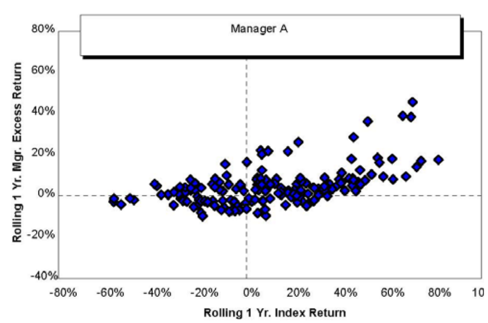
- **Rigorous, intensive review by seasoned investment professionals**

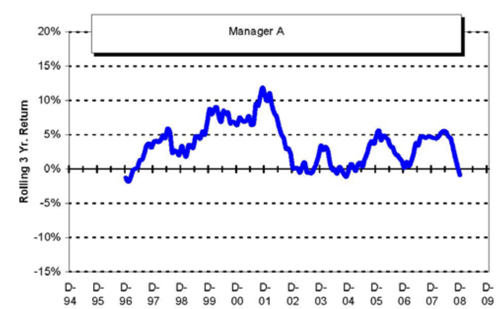
- **Asset Class Advisory Groups serve as sounding board during research process**
  - Potential application of different strategies
  - Provide direction and ideas for new research or new product from managers

- **Final proposed list of preferred strategies presented to Due Diligence Committee (comprised of senior consulting and research professionals)**

- **Comprehensive materials presented along with qualitative review from Research Consultant**
  - Materials cover firm, process, NEPC investment thesis, detailed net-of-fees alpha analytics
  - Due Diligence Committee critiques and approves/eliminates each strategy individually







NEPC, LLC

DPFP Current Manager Roster: Public Assets Managers

Manager	Qualifies as MWBE (US)	MWBE Ownership Interest	Firm AUM ($M)*
Public Equity			
Boston Partners	No	0%	$78,300
Eagle Asset Management	No	0%	$31,294
Manulife	No	0%	$334,170
Mitchell Group	No	2%	$1,144
OFI Global Institutional	No	0%	$216,582
Pyramis (Fidelity)	No	0%	$139,549
RREEF	No	0%	$799,575
Sustainable Asset Management	No	0%	$80,000
Walter Scott	No	0%	$60,015
Public Fixed Income			
Ashmore EM Debt Fund	No	0%	$52,600
Ashmore EM Local CCY	No	0%	$52,600
Brandywine	No	0%	$70,069
Highland Capital Management	No	25%	$16,968
IR+M	No	5%	$61,621
Loomis Sayles	No	0%	$239,968
W.R. Huff High Yield	No	1%	$1,600
Global Asset Allocation			
Bridgewater	No	0%	$159,000
GMO	No	25%	$91,057
Putnam	No	0%	$147,652

*As of June 30, 2016.

DPFP Current Manager Roster: Private Assets Managers

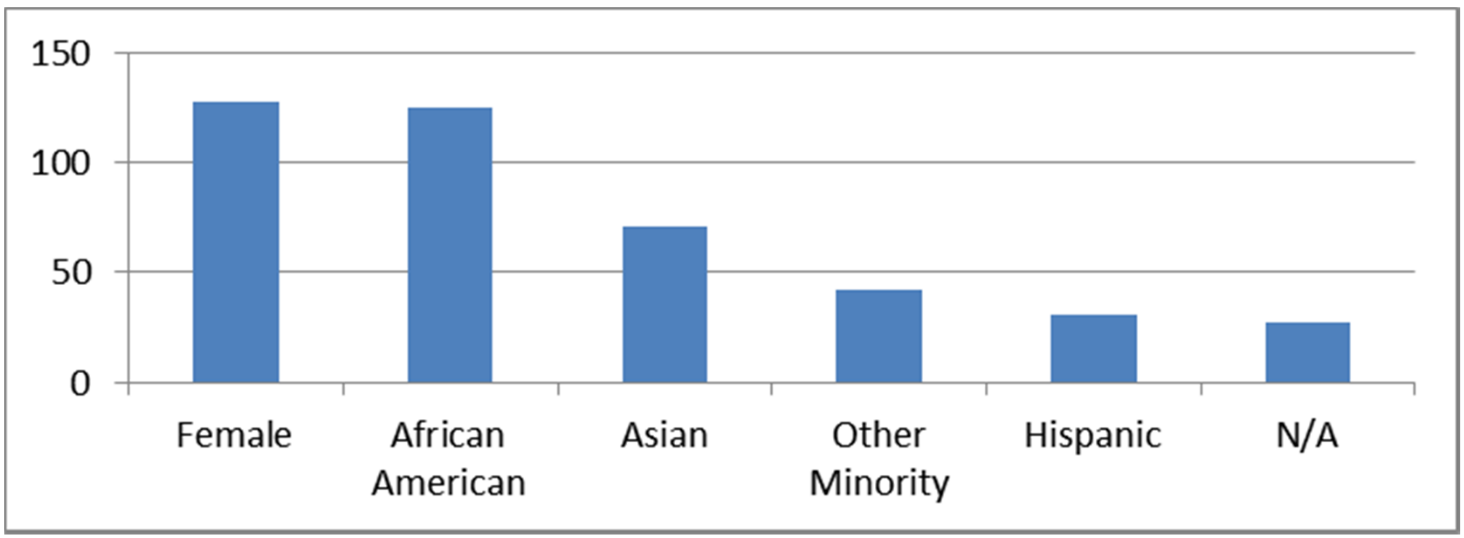
Manager	Qualifies as MWBE (US)	MWBE Ownership Interest	Firm AUM ($M)*
Private Equity / Private Debt			
Ashmore	No	0%	$54,600
BankCap Partners	No	0%	$125
Hudson Clean Energy	No	0%	$1,000
Industry Ventures	No	0%	$3,000
Kainos Capital Partners	No	25%	$1,370
Levine Leichtman Capital Partners	Yes	51%	$7,500
Lone Star (NPL Credit)	No	0%	$65,000
Lone Star (Private Equity)	No	0%	$295
Merit Energy	No	0%	$4,800
Oaktree	No	43%	$99,800
Pharos	Yes	67%	$1,158
Riverstone	No	0%	$34,000
Yellowstone Capital	No	0%	$60
W.R. Huff	No	1%	$1,600

Manager	Qualifies as MWBE (US)	MWBE Ownership Interest	Firm AUM ($M)*
Real Estate / Infra' / Nat'l Res'			
AEW	No	0%	$55,800
Bentall Kennedy	No	0%	$35,000
BTG	No	0%	$49,000
CDK	No	0%	N/A
Clarion	No	3%	$42,300
Cornerstone	No	0%	$51,000
FIA Timberland	No	0%	$4,900
Hancock	No	0%	$2,700
Hearthstone	DNR	DNR	DNR
JP Morgan	No	0%	$82,000
L&B	No	0%	$8,000
Lone Star	No	0%	$65,000
M&G	No	0%	€ 25,900
RREEF	No	0%	€ 42,000

*AUM represents current value of assets or reflect total amount of committed capital to a firm's various partnerships since inception

Emerging Manager Universe Sample: eVest Screen of Domestic Equity

Domestic Equity	
Designation	Primary Designation
Female	127
African American	125
Asian	71
Other Minority	42
Hispanic	31
N/A	27
Grand Total	**423**



Recommendations: Traditional Manager Searches

1) **Beyond its Focused-Placement List (FPL), NEPC to provide at least one Emerging Manager in the search book**
   a) Can be defined by assets under management (e.g., less than $300M at the firm level)
   b) Can be defined by ownership (e.g., MWBE Ownership > 20%)
   c) Manager to be disclosed as a policy directive
   d) To be included, the manager must meet NEPC's Research requirements as an appropriately-qualified manager in the asset class

2) **As part of the search book, NEPC will illustrate managers' MWBE ownership percentages**

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C3

Topic: **Monthly and quarterly investment reporting**

Attendees: Keith Stronkowsky, Senior Consultant

Discussion: Staff and NEPC will present updated monthly and quarterly investment reports, respectively. As a potential cost savings measure, these updated investment reports could replace the current monthly investment oversight reports provided by Maples. The Board engaged Maples Fund Services to provide monthly investment performance and risk reporting, transparency reporting and ad-hoc reports in October 2015 at an annual cost of $125,000. Maples has proposed a lower fee of $75,000 for 2017 and 2018 if DPFP only utilizes the monthly investment performance and risk reporting services under the current agreement.

The updated monthly reports, which staff would prepare, focus on asset allocation, liquidity and monthly portfolio investment activity and would be complemented with the monthly flash performance report prepared by JP Morgan, DPFP's custody bank. NEPC's quarterly performance report, which is the source for DPFP's official investment performance calculations, has been enhanced for ease of use while providing a greater focus on return attribution and overall risk exposure.

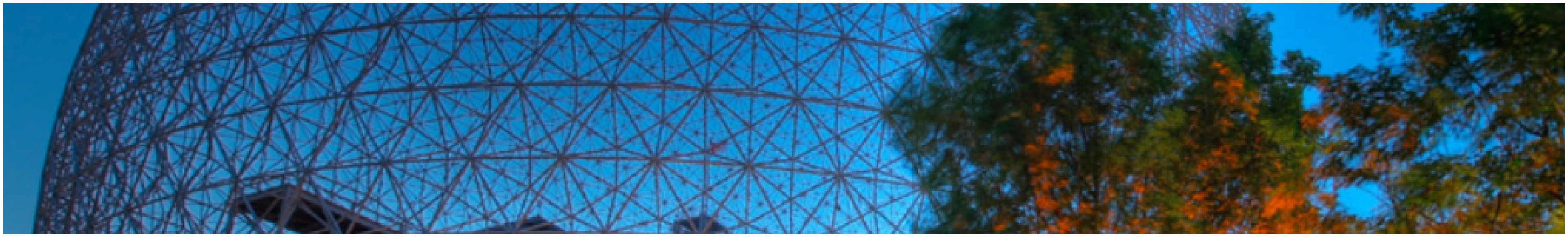
DISCUSSION SHEET

ITEM #C4

Topic: **Investment reports**

Discussion: Review of investment reports.

MAPLES
FUND SERVICES



Investment Oversight

As at 30th September 2016

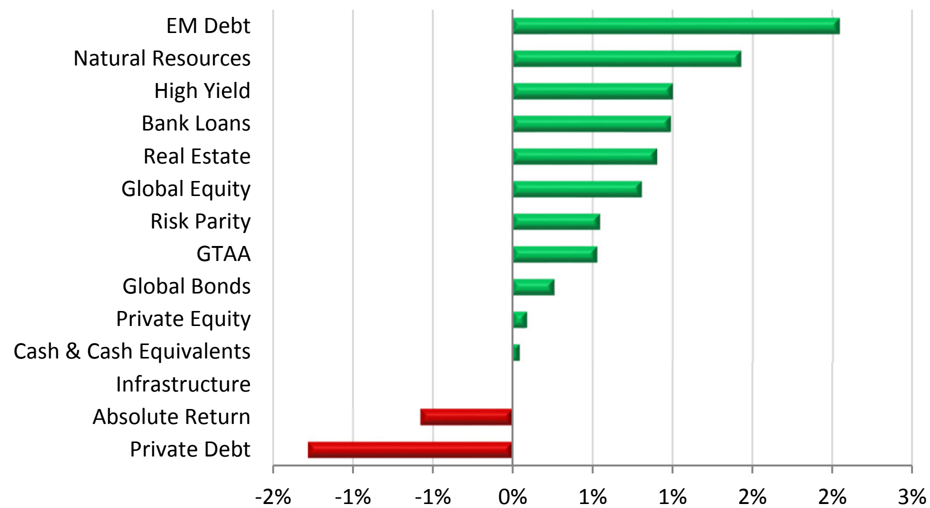
DALLAS
POLICE & FIRE
PENSION SYSTEM

Contents

Data as at September 2016
Asset Class Performance: Actual vs. Policy

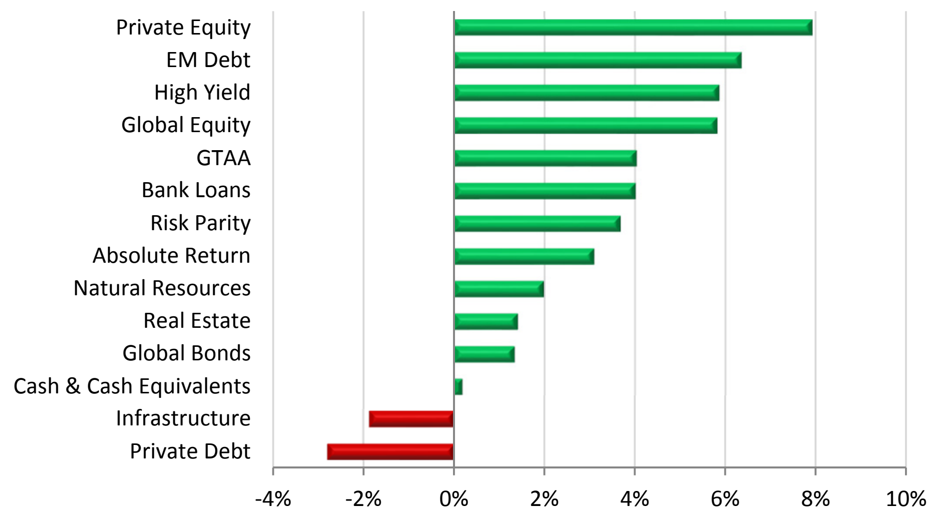
One Month Performance as at September 2016

	One Month		
	DPFP Return	Policy Return (Beta)	Alpha
Global Equity	0.81%	0.61%	0.20%
Private Equity	0.09%	4.64%	-4.55%
Global Bonds	0.27%	0.55%	-0.29%
High Yield	1.00%	0.78%	0.22%
Bank Loans	0.99%	0.60%	0.39%
EM Debt	2.05%	1.21%	0.83%
Private Debt	-1.28%	5.82%	-7.10%
Natural Resources	1.43%	5.88%	-4.45%
Infrastructure	0.00%	2.71%	-2.71%
Real Estate	0.91%	1.77%	-0.86%
Risk Parity	0.55%	0.59%	-0.04%
GTAA	0.53%	0.59%	-0.06%
Absolute Return	-0.58%	0.33%	-0.91%
Cash & Cash Equivalents	0.05%	0.02%	0.02%
Total	**0.66%**	**1.64%**	**-0.98%**
Total ex Real Estate	**0.55%**	**1.43%**	**-0.88%**



Quarter-to-Date Performance as at September 2016

	Quarter-to-Date		
	DPFP Return	Policy Return (Beta)	Alpha
Global Equity	5.81%	5.30%	0.51%
Private Equity	7.93%	4.64%	3.29%
Global Bonds	1.34%	0.81%	0.53%
High Yield	5.85%	5.30%	0.55%
Bank Loans	4.00%	2.97%	1.03%
EM Debt	6.35%	3.24%	3.11%
Private Debt	-2.81%	5.82%	-8.62%
Natural Resources	1.98%	5.88%	-3.90%
Infrastructure	-1.89%	2.71%	-4.60%
Real Estate	1.41%	1.77%	-0.36%
Risk Parity	3.67%	3.50%	0.17%
GTAA	4.03%	3.50%	0.53%
Absolute Return	3.09%	0.89%	2.20%
Cash & Cash Equivalents	0.18%	0.07%	0.11%
Total	**3.56%**	**3.92%**	**-0.35%**
Total ex Real Estate	**3.95%**	**3.70%**	**0.25%**



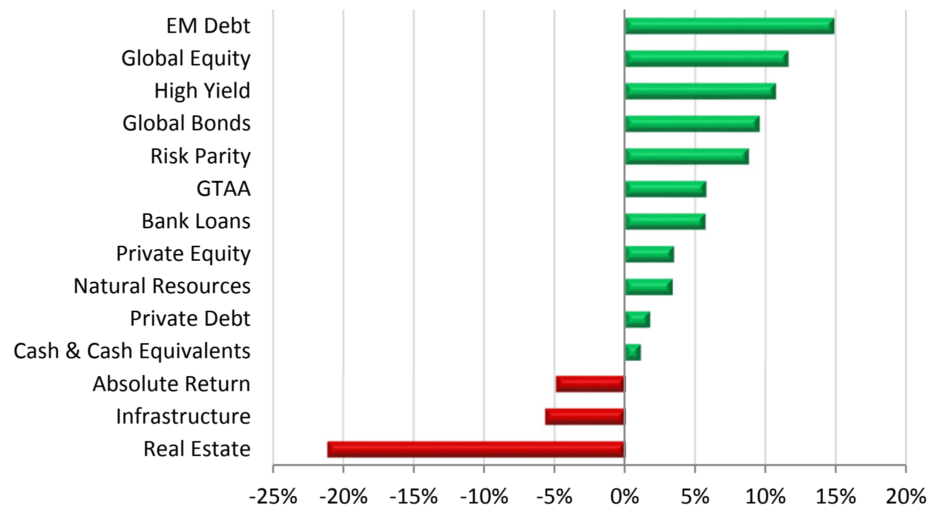
** Please see Appendix I (page 36) for details on the policy indexes.*
*** Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.*

Data as at September 2016
Asset Class Performance: Actual vs. Policy (cont.)

MAPLES FUND SERVICES

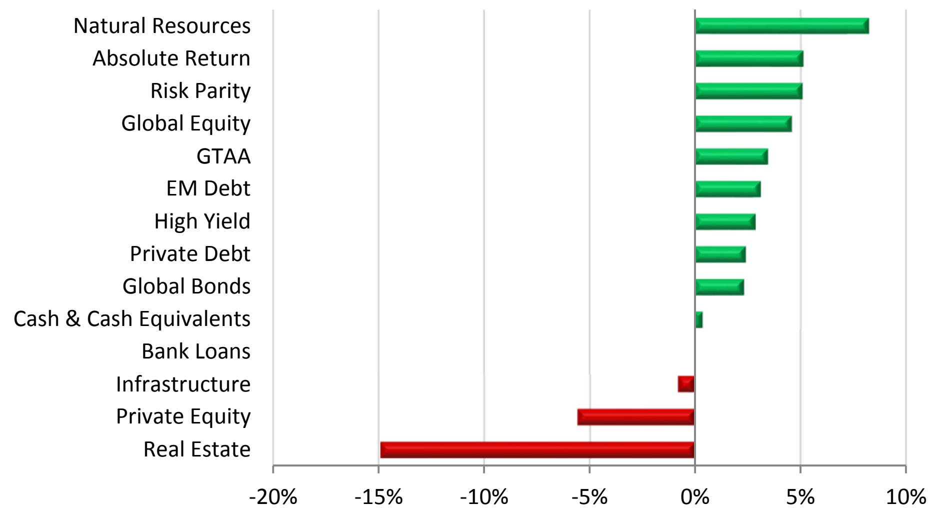
One Year Performance as at September 2016

	One Year		
	DPFP Return	Policy Return (Beta)	Alpha
Global Equity	11.58%	11.96%	-0.38%
Private Equity	3.46%	15.95%	-12.49%
Global Bonds	9.53%	8.82%	0.71%
High Yield	10.69%	13.51%	-2.81%
Bank Loans	5.69%	6.05%	-0.36%
EM Debt	14.84%	16.60%	-1.76%
Private Debt	1.76%	15.75%	-14.00%
Natural Resources	3.35%	23.89%	-20.54%
Infrastructure	-5.74%	14.61%	-20.34%
Real Estate	-21.18%	9.22%	-30.40%
Risk Parity	8.77%	10.91%	-2.14%
GTAA	5.76%	10.91%	-5.16%
Absolute Return	-4.95%	0.88%	-5.84%
Cash & Cash Equivalents	1.10%	0.24%	0.85%
Total	**-1.38%**	**13.93%**	**-15.31%**
Total ex Real Estate	**5.93%**	**12.64%**	**-6.71%**



Three Year Performance as at September 2016

	Three Year		
	DPFP Return	Policy Return (Beta)	Alpha
Global Equity	4.58%	5.17%	-0.59%
Private Equity	-5.59%	11.52%	-17.11%
Global Bonds	2.33%	2.13%	0.21%
High Yield	2.88%	4.97%	-2.09%
Bank Loans	n/a	2.76%	n/a
EM Debt	3.13%	2.71%	0.42%
Private Debt	2.41%	7.06%	-4.65%
Natural Resources	8.25%	-4.40%	12.65%
Infrastructure	-0.82%	7.01%	-7.84%
Real Estate	-14.90%	11.30%	-26.20%
Risk Parity	5.09%	4.09%	1.00%
GTAA	3.46%	4.09%	-0.63%
Absolute Return	5.13%	2.01%	3.13%
Cash & Cash Equivalents	0.39%	0.10%	0.29%
Total	**-2.71%**	**8.87%**	**-11.58%**
Total ex Real Estate	**1.96%**	**7.19%**	**-5.23%**



** Please see Appendix I (page 36) for details on the policy indexes.*
*** Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.*

Data as at September 2016
Portfolio Attribution

Attribution Metrics

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

** Please see Appendix II (page 37) for details on the attribution calculation and methodology.*

Data as at September 2016
Portfolio Attribution (cont.)

One Month as at September 2016

Asset Class	Weights		Returns		Attribution			
	DPFP	Policy	DPFP	Policy	Allocation (1)	Selection (2)	Interaction (3)	Active Return (1+2+3)
Global Equity	16.94%	20.00%	0.81%	0.61%	0.03%	0.04%	-0.01%	0.06%
EM Equity	0.00%	5.00%	0.00%	1.29%	0.02%	-0.06%	0.06%	0.02%
Private Equity	17.01%	5.00%	0.09%	4.64%	0.36%	-0.23%	-0.55%	-0.41%
Short Term Core Bonds	0.00%	2.00%	0.00%	0.12%	0.03%	0.00%	0.00%	0.03%
Global Bonds	3.59%	3.00%	0.27%	0.55%	-0.01%	-0.01%	0.00%	-0.02%
High Yield	6.41%	5.00%	1.00%	0.78%	-0.01%	0.01%	0.00%	0.00%
Bank Loans	2.08%	6.00%	0.99%	0.60%	0.04%	0.02%	-0.02%	0.05%
Struc. Cred. & Abs. Ret.	0.00%	6.00%	0.00%	0.76%	0.05%	-0.05%	0.05%	0.05%
EM Debt	2.24%	6.00%	2.05%	1.21%	0.02%	0.05%	-0.03%	0.03%
Private Debt	3.55%	5.00%	-1.28%	5.82%	-0.06%	-0.35%	0.10%	-0.31%
Natural Resources	11.17%	5.00%	1.43%	5.88%	0.26%	-0.22%	-0.27%	-0.24%
Infrastructure	6.75%	5.00%	0.00%	2.71%	0.02%	-0.14%	-0.05%	-0.16%
Real Estate	23.25%	12.00%	0.91%	1.77%	0.01%	-0.10%	-0.10%	-0.19%
Liquid Real Assets	0.00%	3.00%	0.00%	0.70%	0.03%	-0.02%	0.02%	0.03%
Risk Parity	5.79%	5.00%	0.55%	0.59%	-0.01%	0.00%	0.00%	-0.01%
GTAA	3.42%	3.00%	0.53%	0.59%	0.00%	0.00%	0.00%	-0.01%
Absolute Return	1.21%	2.00%	-0.58%	0.33%	0.01%	-0.02%	0.01%	0.00%
Cash & Cash Equivalents	2.33%	2.00%	0.05%	0.02%	-0.01%	0.00%	0.00%	0.00%
Plan Leverage Facility	-5.75%	0.00%	0.00%	0.00%	0.09%	0.00%	0.00%	0.09%
Total	**100.00%**	**100.00%**	**0.66%**	**1.64%**	**0.88%**	**-1.08%**	**-0.77%**	**-0.98%**

** Please see Appendix II (page 37) for details on the attribution calculation and methodology.*

Data as at September 2016
Portfolio Attribution (cont.)

Calendar YTD as at September 2016

Asset Class	Weights		Returns		Attribution			
	DPFP	Policy	DPFP	Policy	Allocation (1)	Selection (2)	Interaction (3)	Active Return (1+2+3)
Global Equity	16.09%	20.00%	6.73%	6.60%	0.10%	0.02%	0.01%	0.13%
EM Equity	0.00%	5.00%	0.00%	16.02%	-0.32%	-0.81%	0.81%	-0.32%
Private Equity	15.24%	5.00%	3.87%	8.88%	-0.04%	-0.24%	-0.55%	-0.83%
Short Term Core Bonds	0.00%	2.00%	0.00%	1.32%	0.17%	-0.03%	0.03%	0.17%
Global Bonds	4.19%	3.00%	10.40%	9.84%	0.01%	0.02%	0.00%	0.03%
High Yield	6.08%	5.00%	17.37%	14.49%	0.04%	0.13%	0.02%	0.20%
Bank Loans	1.91%	6.00%	9.41%	8.49%	0.05%	0.05%	-0.03%	0.07%
Struc. Cred. & Abs. Ret.	0.00%	6.00%	0.00%	5.81%	0.24%	-0.35%	0.35%	0.24%
EM Debt	2.12%	6.00%	13.64%	15.87%	-0.24%	-0.12%	0.08%	-0.27%
Private Debt	3.36%	5.00%	-0.20%	16.18%	-0.10%	-0.80%	0.25%	-0.65%
Natural Resources	10.65%	5.00%	2.92%	23.34%	0.73%	-0.98%	-1.13%	-1.38%
Infrastructure	7.27%	5.00%	-4.35%	17.19%	0.19%	-1.08%	-0.53%	-1.42%
Real Estate	24.99%	12.00%	-5.11%	6.13%	-0.47%	-1.40%	-1.55%	-3.42%
Liquid Real Assets	0.00%	3.00%	0.00%	5.01%	0.14%	-0.15%	0.15%	0.14%
Risk Parity	7.39%	5.00%	9.05%	8.02%	-0.04%	0.05%	-0.07%	-0.06%
GTAA	4.30%	3.00%	4.24%	8.02%	-0.02%	-0.11%	-0.06%	-0.20%
Absolute Return	1.17%	2.00%	-10.90%	0.66%	0.08%	-0.25%	0.09%	-0.07%
Cash & Cash Equivalents	2.45%	2.00%	1.07%	0.21%	-0.04%	0.02%	0.00%	-0.02%
Plan Leverage Facility	-7.21%	0.00%	0.00%	0.00%	0.70%	0.00%	0.00%	0.70%
Total	**100.00%**	**100.00%**	**2.87%**	**9.84%**	**1.18%**	**-6.03%**	**-2.12%**	**-6.97%**

** Please see Appendix II (page 37) for details on the attribution calculation and methodology.*

Data as at September 2016
Portfolio Attribution (cont.)

One Year as at September 2016

Asset Class	Weights		Returns		Attribution			
	DPFP	Policy	DPFP	Policy	Allocation (1)	Selection (2)	Interaction (3)	Active Return (1+2+3)
Global Equity	17.15%	20.00%	11.58%	11.96%	0.08%	-0.08%	0.01%	0.01%
EM Equity	0.00%	5.00%	0.00%	16.78%	-0.26%	-0.82%	0.82%	-0.26%
Private Equity	14.77%	5.00%	3.46%	15.95%	0.41%	-0.61%	-1.17%	-1.38%
Short Term Core Bonds	0.00%	2.00%	0.00%	0.88%	0.21%	-0.02%	0.02%	0.21%
Global Bonds	3.95%	3.00%	9.53%	8.82%	0.01%	0.02%	0.00%	0.03%
High Yield	6.06%	5.00%	10.69%	13.51%	0.02%	-0.14%	-0.03%	-0.16%
Bank Loans	1.87%	6.00%	5.69%	6.05%	0.23%	-0.03%	0.03%	0.23%
Struc. Cred. & Abs. Ret.	0.00%	6.00%	0.00%	5.44%	0.37%	-0.31%	0.31%	0.37%
EM Debt	2.07%	6.00%	14.84%	16.60%	-0.18%	-0.08%	0.06%	-0.21%
Private Debt	3.32%	5.00%	1.76%	15.75%	-0.06%	-0.64%	0.19%	-0.51%
Natural Resources	10.44%	5.00%	3.35%	23.89%	0.63%	-0.94%	-1.08%	-1.39%
Infrastructure	7.13%	5.00%	-5.74%	14.61%	0.11%	-1.00%	-0.49%	-1.38%
Real Estate	25.58%	12.00%	-21.18%	9.22%	-0.24%	-3.99%	-4.89%	-9.13%
Liquid Real Assets	0.00%	3.00%	0.00%	6.43%	0.14%	-0.19%	0.19%	0.14%
Risk Parity	7.63%	5.00%	8.77%	10.91%	0.00%	-0.11%	-0.19%	-0.30%
GTAA	4.27%	3.00%	5.76%	10.91%	-0.01%	-0.15%	-0.08%	-0.23%
Absolute Return	1.15%	2.00%	-4.95%	0.88%	0.09%	-0.09%	0.02%	0.02%
Cash & Cash Equivalents	2.48%	2.00%	1.10%	0.24%	-0.06%	0.02%	0.00%	-0.04%
Plan Leverage Facility	-7.87%	0.00%	0.00%	0.00%	0.86%	0.00%	0.00%	0.86%
Total	**100.00%**	**100.00%**	**-1.38%**	**11.72%**	**2.35%**	**-9.16%**	**-6.28%**	**-13.10%**

** Please see Appendix II (page 37) for details on the attribution calculation and methodology.*

Data as at September 2016
Asset Allocations: Monthly Changes

The total NAV of the portfolio at September 30th 2016 is **2,394,387,505**

- P&L of the portfolio increased by $17 million.
- $14 million was added in contributions, $230 million paid in benefits.
- No new managers were added during the month.
- No managers were liquidated during the month.

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

Top Performing Asset Classes

Asset Class	Performance (September)	
	$	%
Real Estate	5,498,404	0.91%
Natural Resources	4,173,260	1.43%
Global Equity	3,588,579	0.81%

Bottom Performing Asset Classes

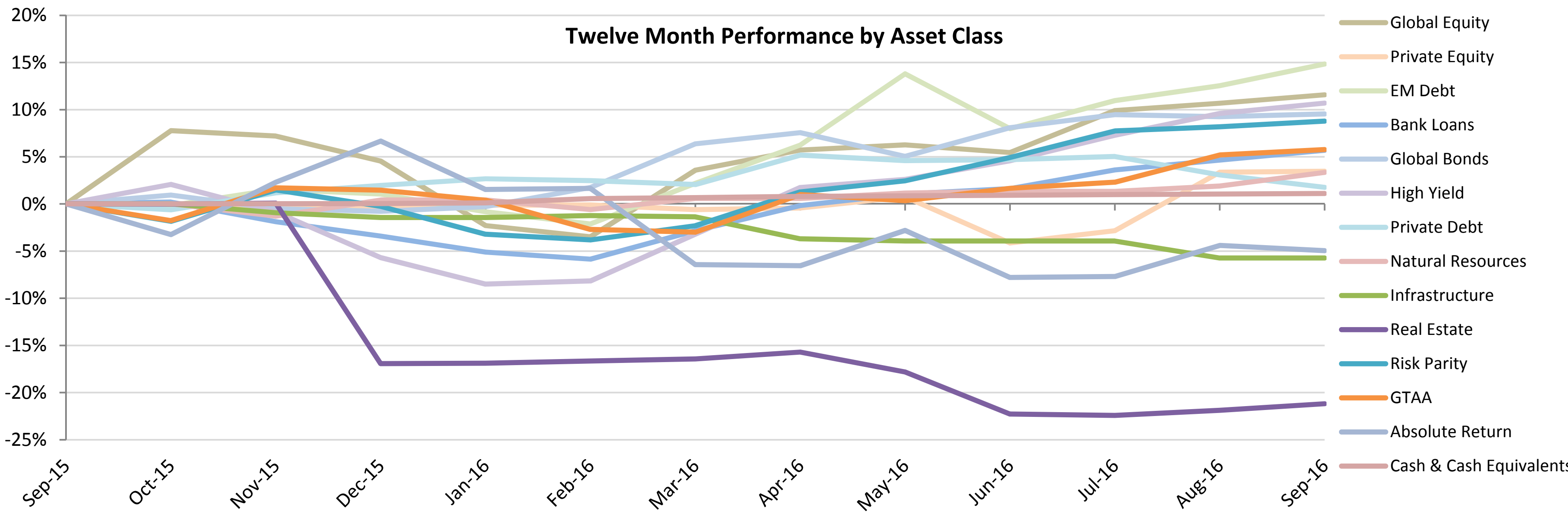
Asset Class	Performance (September)	
	$	%
Private Debt	(1,185,264)	-1.28%
Absolute Return	(182,591)	-0.58%
Infrastructure	0	0.00%

Top Performing Holdings

Holding	Performance (September)	
	$	%
RE Separate Accounts	5,630,706	1.02%
BTG Pactual Asset Management	3,472,891	4.28%
Loomis Sayles	1,628,528	1.26%

Bottom Performing Holdings

Holding	Performance (September)	
	$	%
Highland Crusader Fund	(1,176,410)	-23.11%
RREEF	(195,460)	-0.81%
Bridgewater Pure Alpha	(182,591)	-0.58%

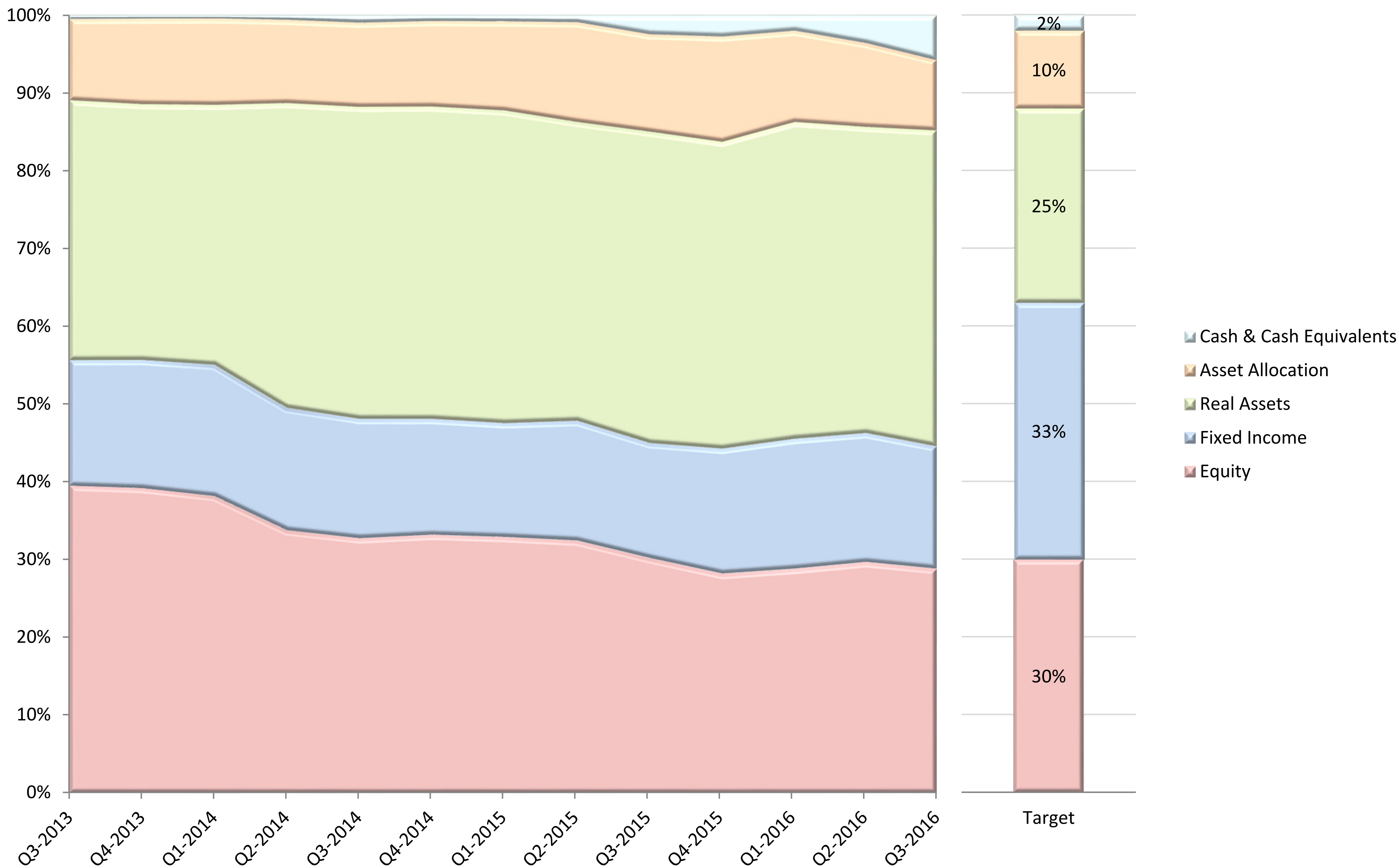


Data as at September 2016
Asset Allocations: Notable Cashflows

Cashflows over $3mm USD

Inflow/(Outflow)	Holding	Purpose
30,556,506	Rock Island	Asset Sale
11,000,000	Museum Tower	Distribution
8,346,619	Levine Leichtman Capital Partners IV	Distribution
7,729,223	Kainos	Distribution
(10,000,000)	B OF A LOAN DTD 3/31/2014 Term Loan	Paydown

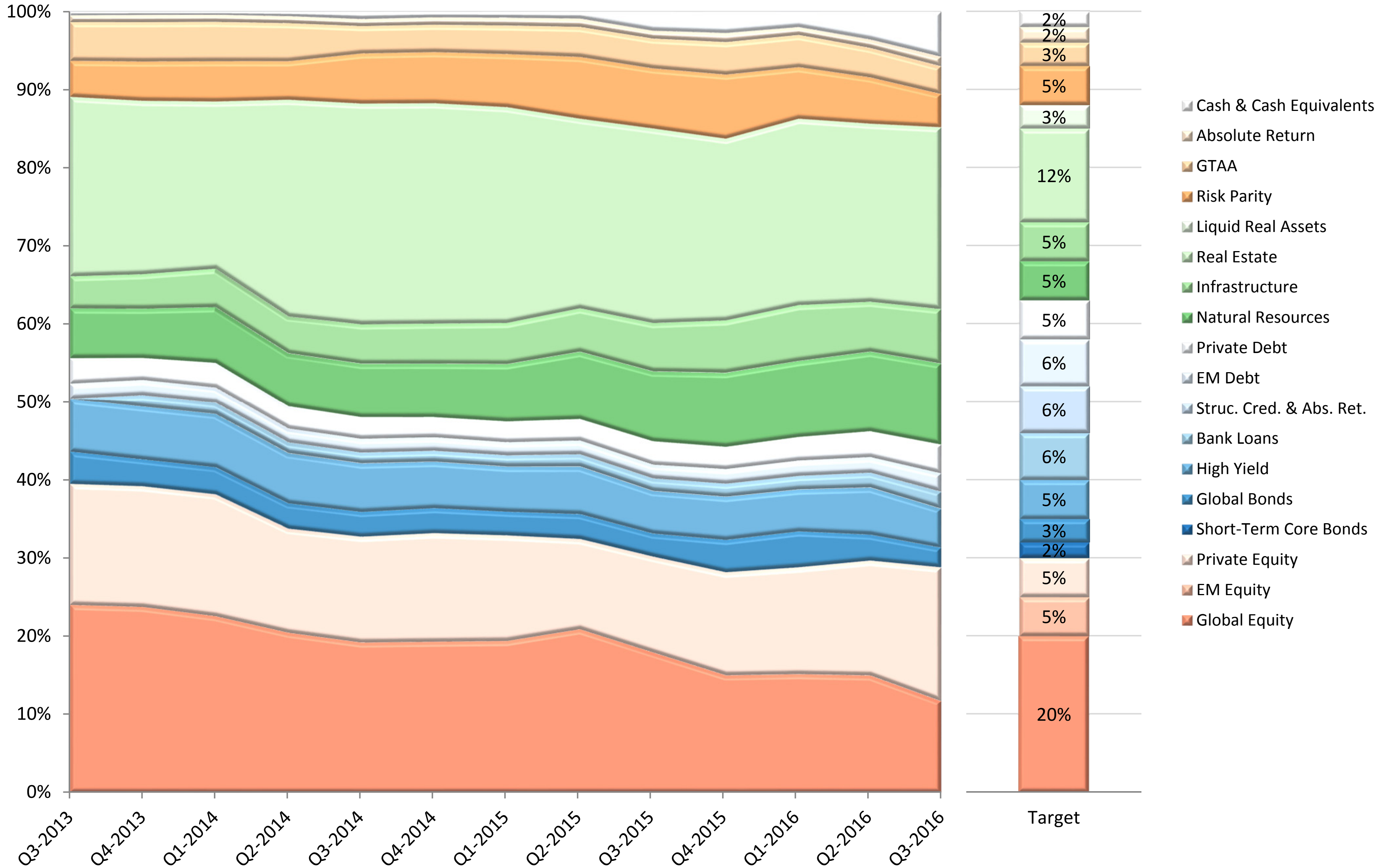
Data as at September 2016
Asset Allocations: Over Time (Quarterly)



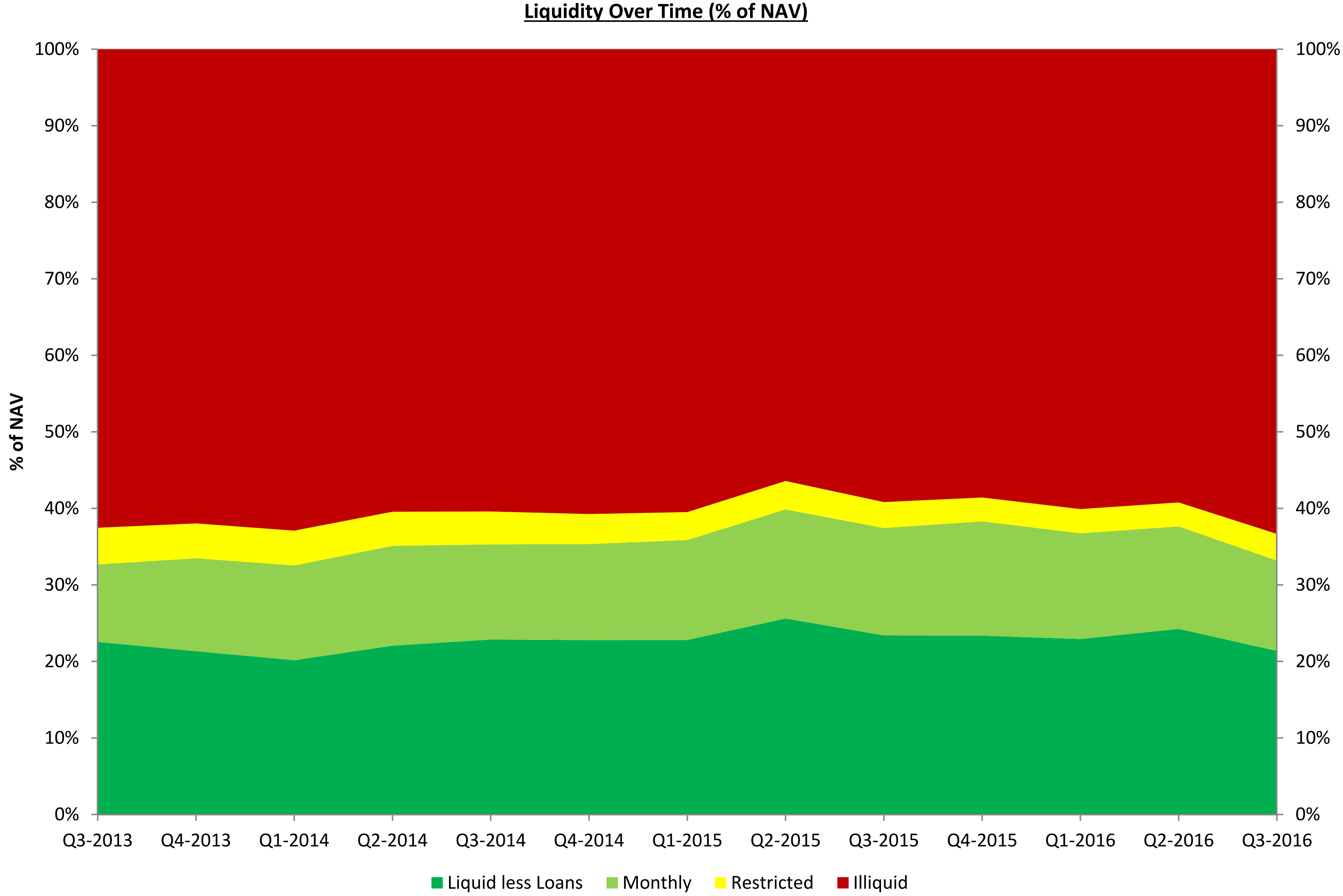
Data as at September 2016

Asset Allocations: Sub-Assets Over Time (Quarterly)

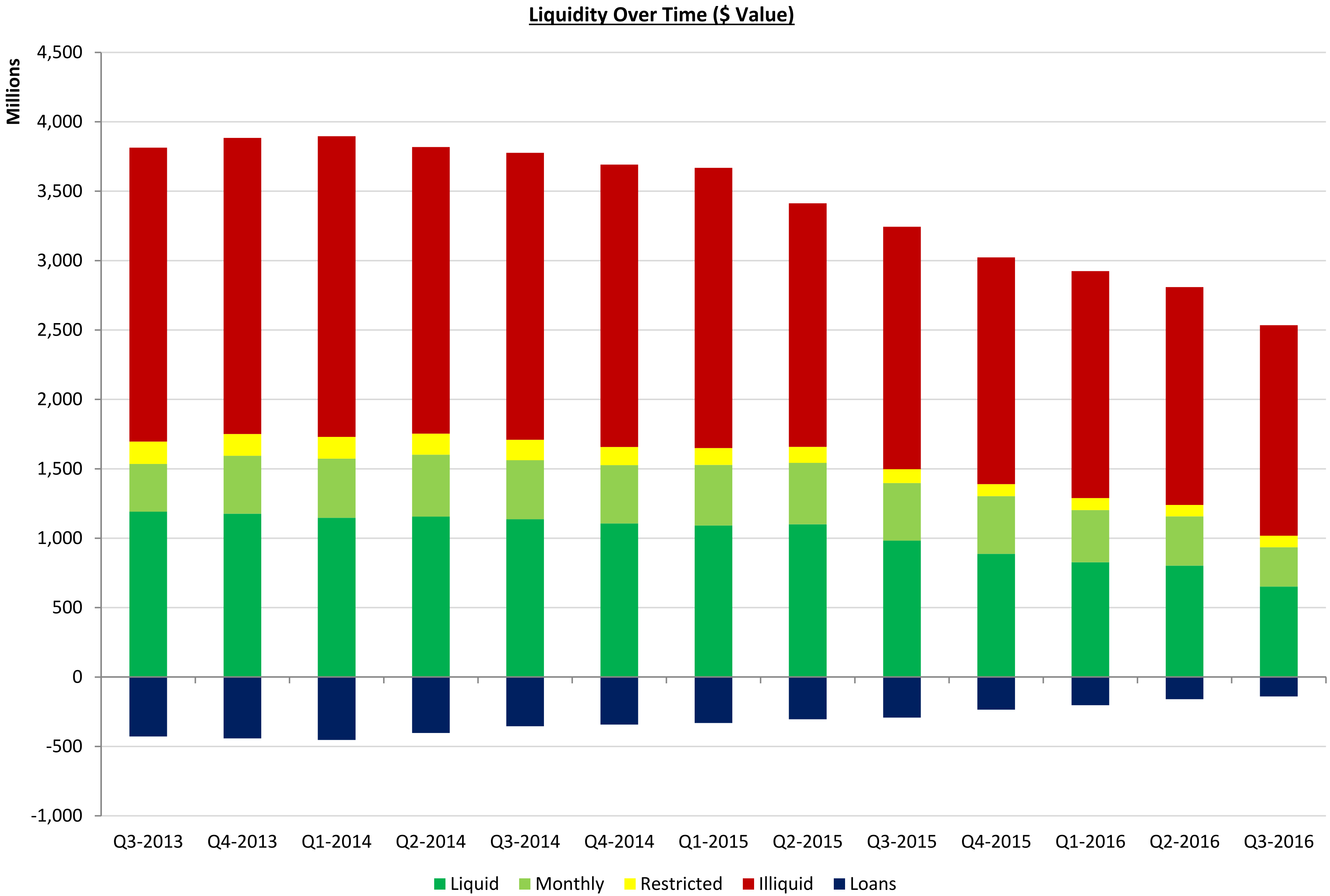
MAPLES FUND SERVICES



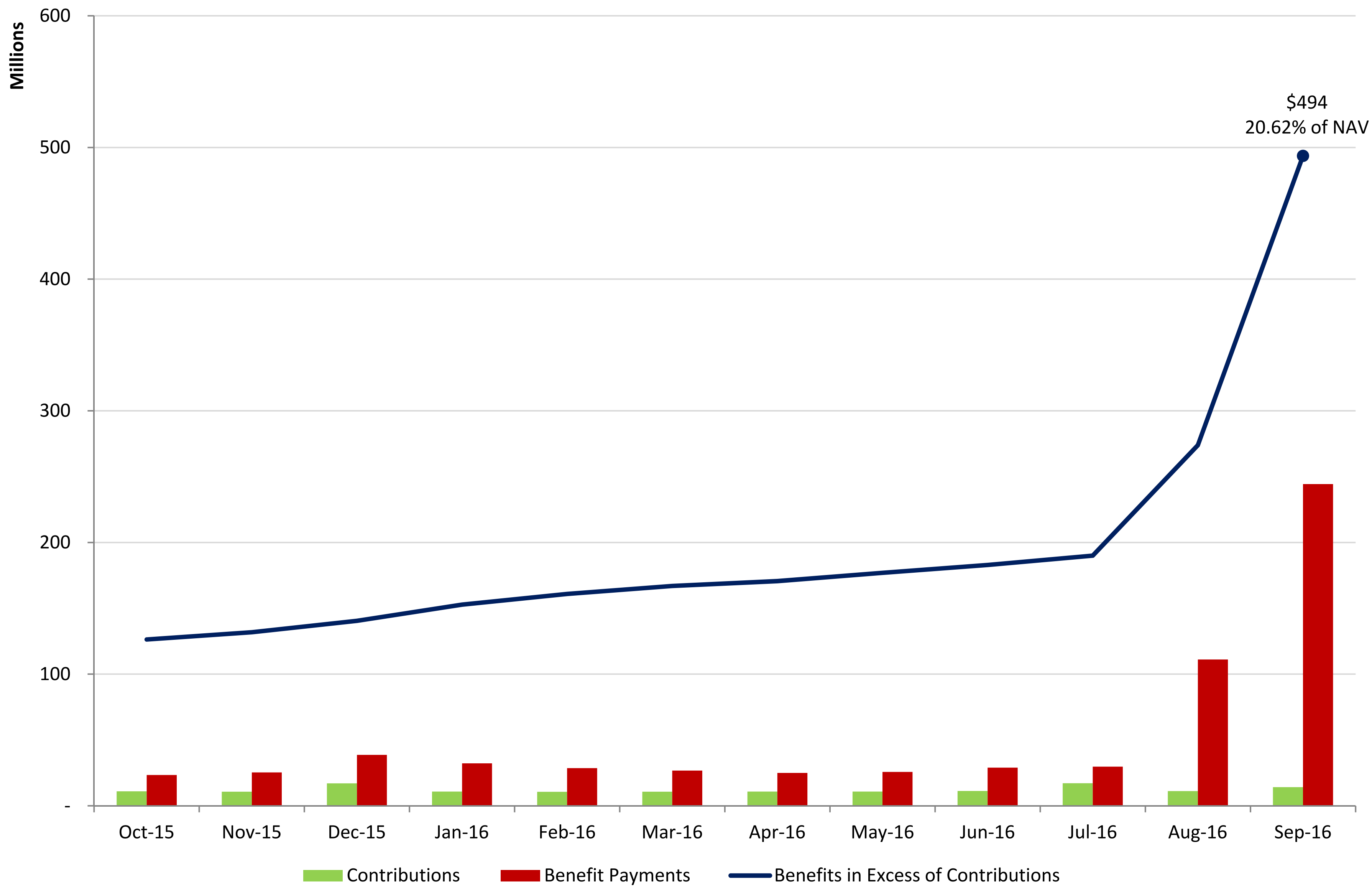
Data as at September 2016
Liquidity Over Time (Quarterly)



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



Data as at September 2016
Trailing 12 Month Funding Gap



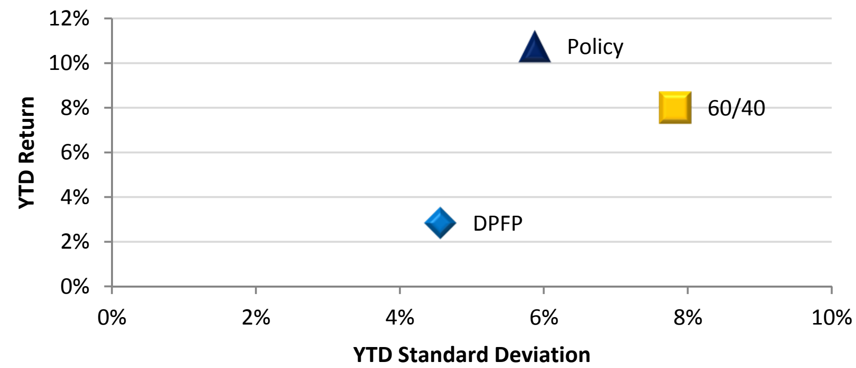
Data as at September 2016
Long Term Plan Risk/Return vs Policy and 60/40

Trend Commentary

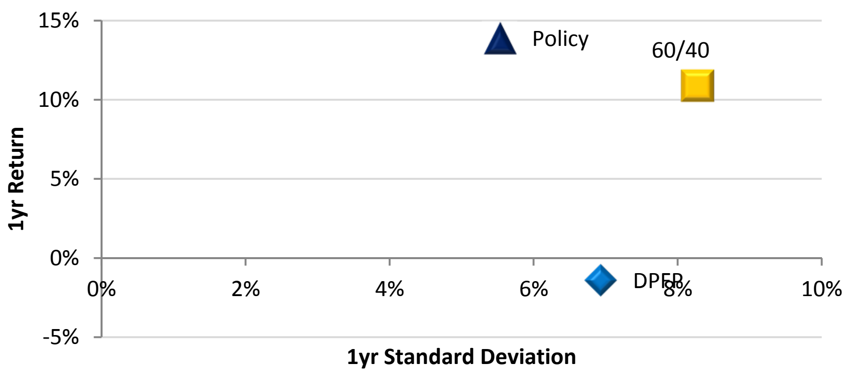
- The DPFP portfolio is less volatile than the 60/40 portfolio across all time horizons.
- The DPFP portfolio is less volatile than the Policy benchmark across the 5 year time horizon.

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

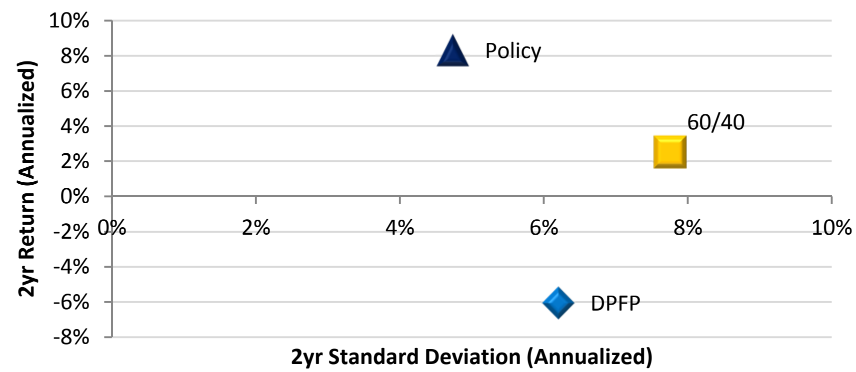
YTD as at September 2016



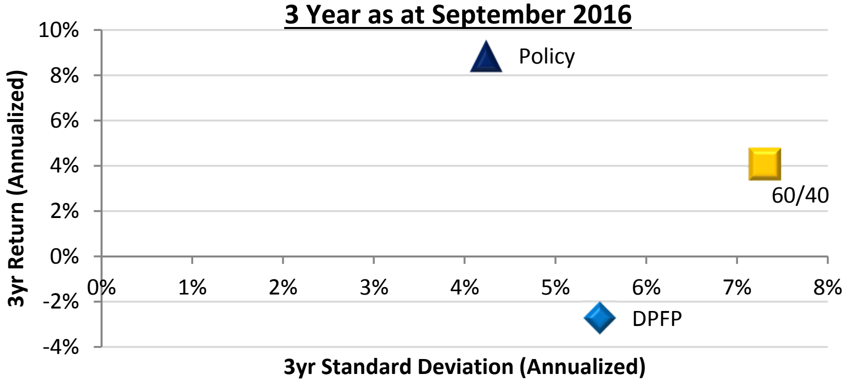
1 Year as at September 2016



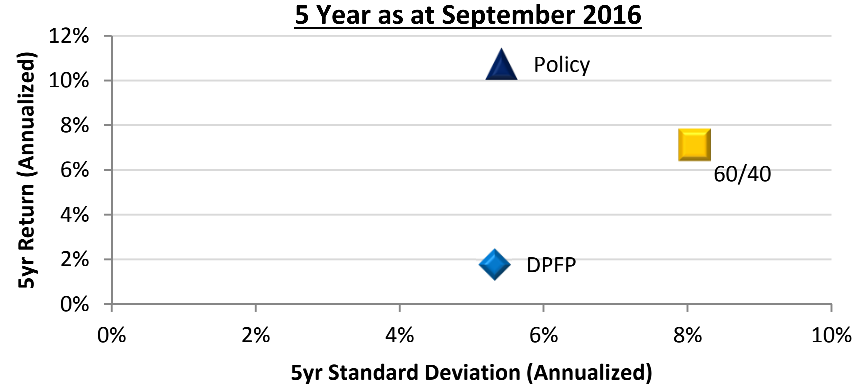
2 Year as at September 2016



3 Year as at September 2016



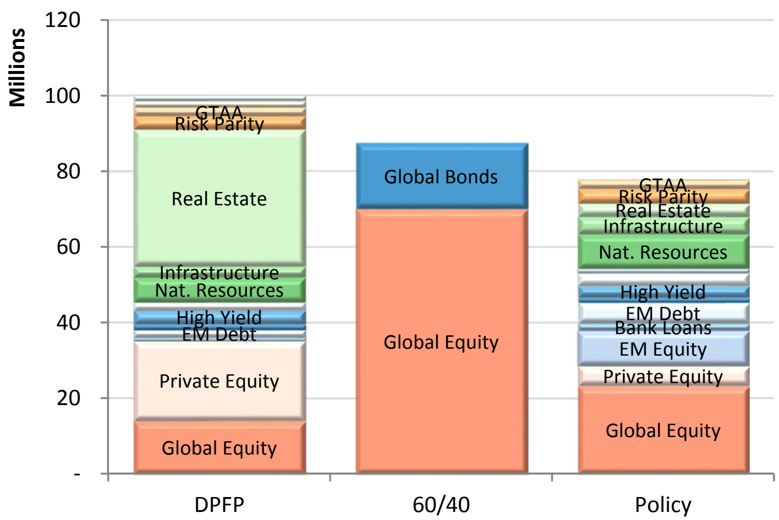
5 Year as at September 2016



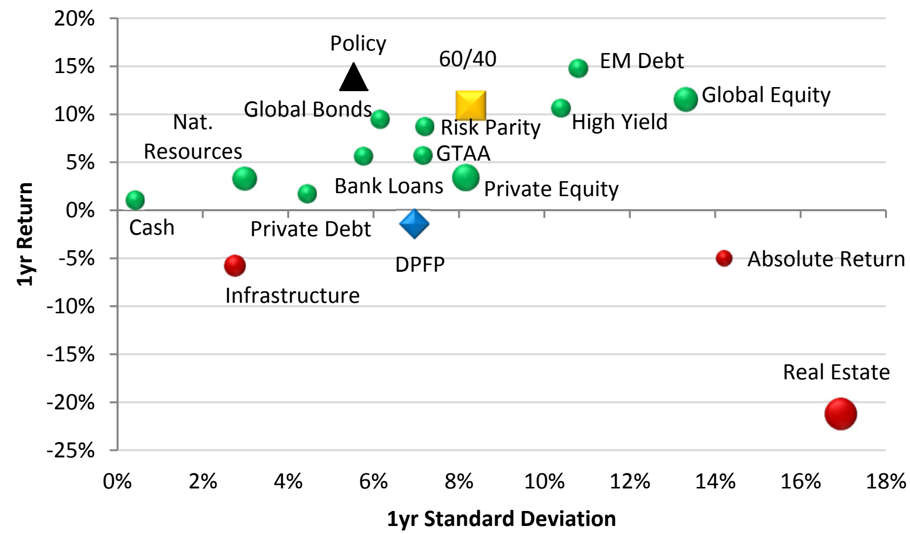
** Please see Appendix I (page 36) for details on the composition of the 60/40 and Policy benchmarks.*

Data as at September 2016
Risk Profile

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

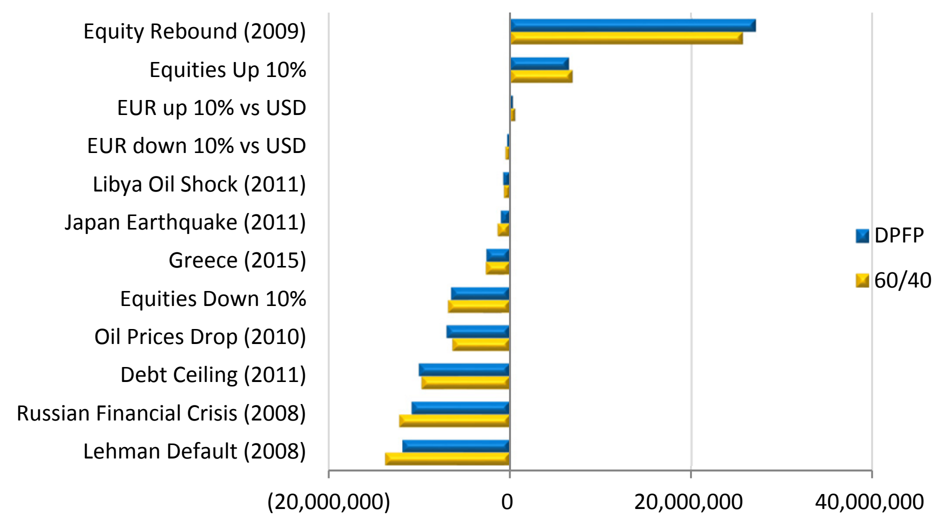


Sub-Asset Class Risk vs Return (Sharpe) as at September 2016



Portfolio Stress Testing as at September 2016

Scenario	P&L ($)	P&L (%)
Equity Rebound (2009)	27,142,398	24.76%
Equities Up 10%	6,462,657	5.90%
EUR up 10% vs USD	307,920	0.28%
EUR down 10% vs USD	(307,356)	-0.28%
Libya Oil Shock (2011)	(745,675)	-0.68%
Japan Earthquake (2011)	(999,979)	-0.91%
Greece (2015)	(2,582,900)	-2.36%
Equities Down 10%	(6,456,407)	-5.89%
Oil Prices Drop (2010)	(6,953,723)	-6.34%
Debt Ceiling (2011)	(9,979,934)	-9.10%
Russian Financial Crisis (2008)	(10,777,986)	-9.83%
Lehman Default (2008)	(11,801,940)	-10.77%



** Stress Test Scenarios and the proxy instruments used are detailed in Appendix I (page 36).*

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

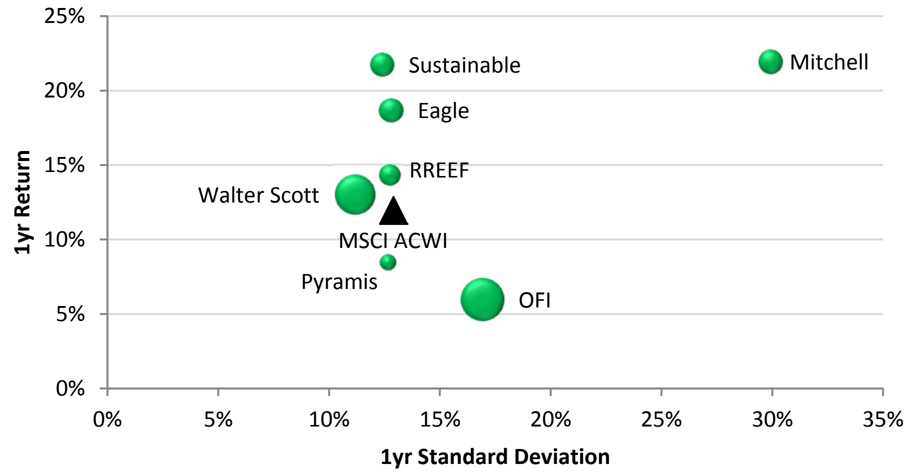
Data as at September 2016
Equity Overview – Global Equity

Commentary

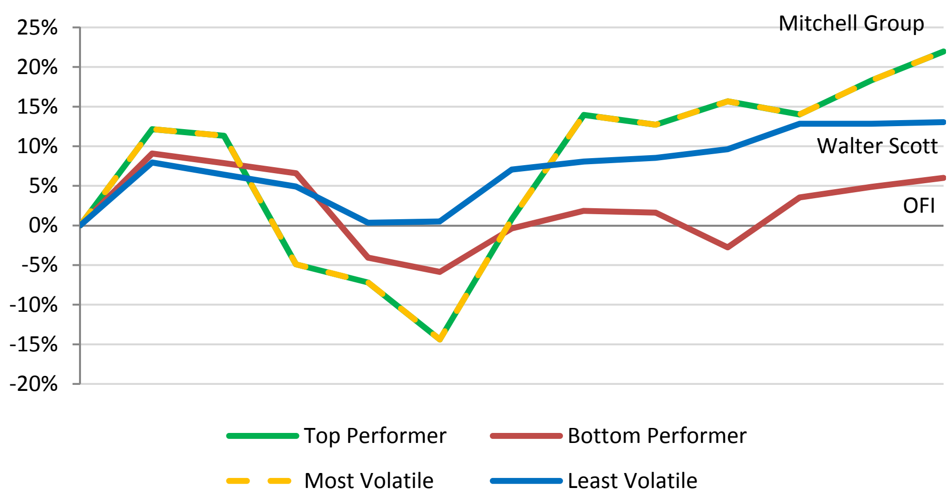
- September is historically the worst-performing month of the year, and this September was dominated by economic, financial, and political events that led to a flat return for the S&P. However, it posted its fourth consecutive quarterly gain (3Q +3.9%) and the index stood just 1.0% away from its August 15, 2016 all-time closing high of 2,190.
- International equities were mixed in September, showing proof that countries are starting to trade independently of coordinated global monetary policy. European equities were up modestly (MSCI Europe up 0.9%), within Asia the Nikkei fell 1.9% while the Hang Seng rallied 1.8%, and emerging markets generally rallied (MSCI EM Index gained 1.3%).
- Financials took center stage in September in both Europe and the United States. Deutsche Bank (DB; down 11.3% for the month) faced concerns over its capital standing as a result of a Department of Justice mortgage-securities investigation, Wells Fargo (WFC; down 12.8% for the month) was in trouble for opening new accounts without client permission, and Commerzbank AG (CRZBY; down 12.1% for the month) announced it would cut thousands of workers.
- Equity market volatility slightly decreased month-over-month as the VIX closed September at 13.3, down from 13.4 at the end of August. However, these figures don't tell the whole story because the "fear gauge" index posted an intra-month high of 18.1 and averaged 14.2 during the month.

Source – Cliffwater

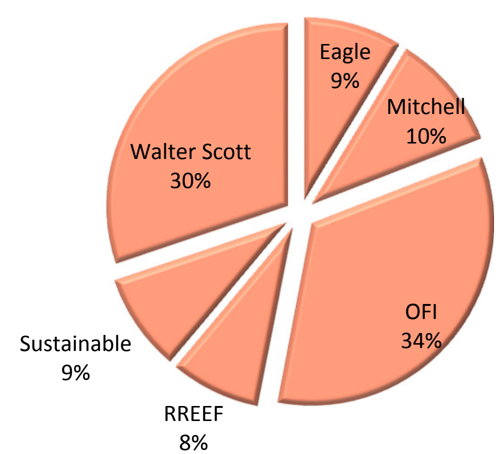
Manager Risk vs Return (Sharpe) as at September 2016



Twelve Month Compounded Performance as at September 2016



Exposure by Manager as at September 2016

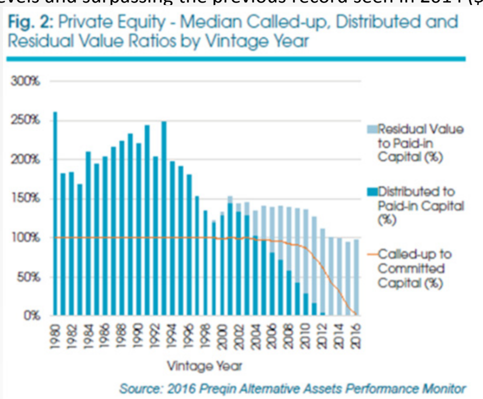


Data as at September 2016
Equity Overview – Private Equity

MAPLES FUND SERVICES

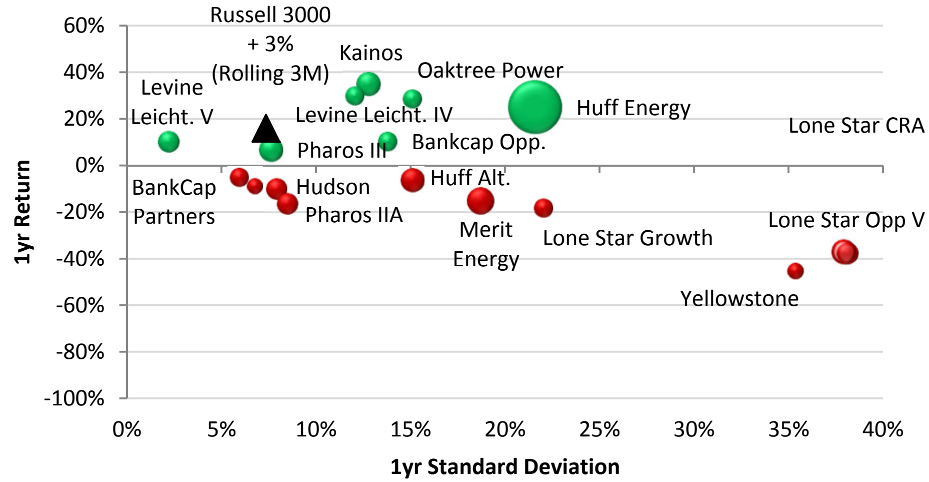
Commentary

- The below chart shows the median amount of capital called, distributed and remaining in funds as of 31 December 2015. Private equity vehicles with vintages of 1997 or older have distributed to paid-in capital (DPI) of 150% and over; furthermore, all funds prior to 2004 have seen DPIs of over 100%. In terms of capital distributed to investors over time, 2015 was a record year with the highest ever distributions to investors from their private equity investments ($797bn), a 46% increase on 2013 levels and surpassing the previous record seen in 2014 ($743bn).

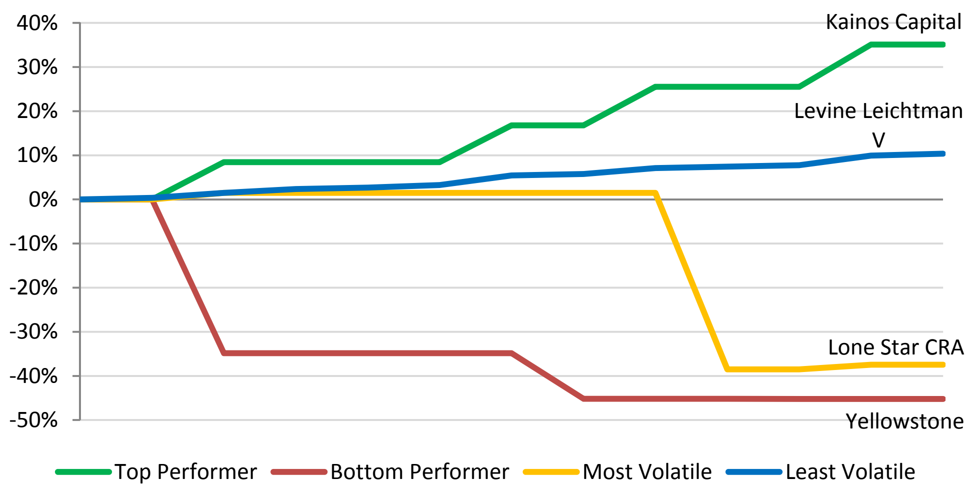


Source – Preqin

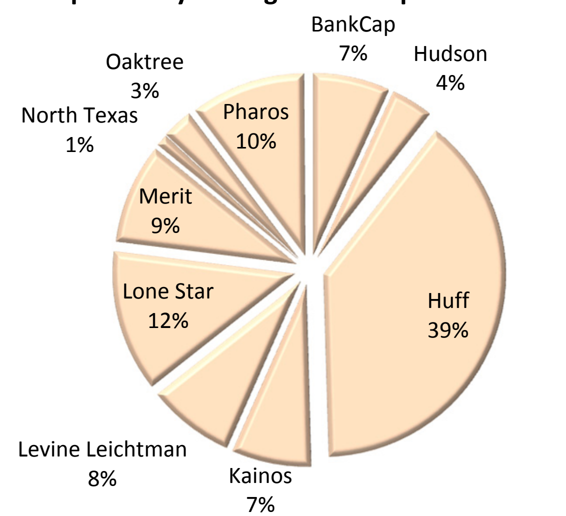
Manager Risk vs Return (Sharpe) as at September 2016



Twelve Month Compounded Performance as at September 2016



Exposure by Manager as at September 2016



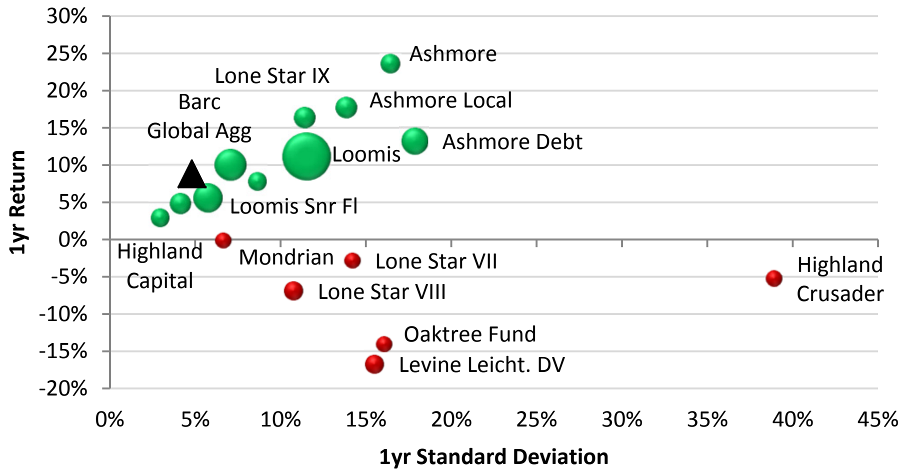
Data as at September 2016
Fixed Income Overview

Commentary

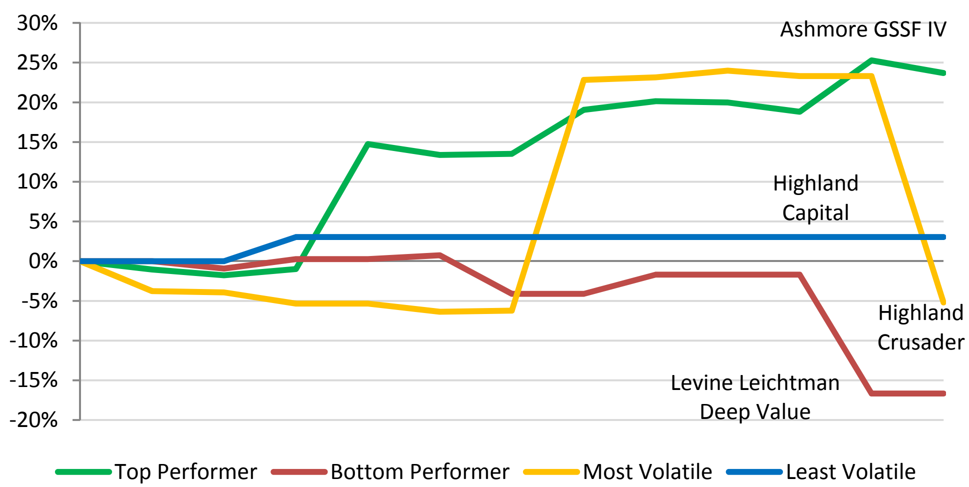
- September's two-day FOMC meeting (Sept 20-21) called for no change to monetary policy, though 3 of the 10 voting members dissented, wanting to increase interest rates. In discussing the FOMC decision, Federal Reserve Chair Janet Yellen suggested that a rate hike could take place in December. The US Treasury curve steepened for the month: US2Y -4bp to 0.76%; US10Y +1bps to 1.59%; US30Y +8bps to 2.32%.
- Earlier on September 21st, the Bank of Japan (BoJ) announced a shift in the focus of their monetary stimulus from expanding the money supply to controlling interest rates. The BoJ kept benchmark interest rate unchanged at -0.1% but unveiled a new policy framework to target zero interest rates on its 10Y bonds while overshooting its 2% inflation target. Japanese 10Y yields fell 3 basis points to -0.09%.
- A fresh milestone in the world of negative interest rates was reached in September when European corporates Henkel and Sanofi became the first public companies to sell new euro bonds at negative yields.
- US high yield corporate bonds (0.7%) and loans (0.8%) continued to grind higher. New issuance volumes remained robust and market conditions continue to favor issuers. In particular, opportunistic issuance (refinancings and recapitalizations) remained heavy, leading to the largest monthly volume in three years for the leveraged loan market. The year-to-date rally in US structured credit markets extended into September as residential, commercial and corporate spreads all continued to tighten.

Source – Cliffwater

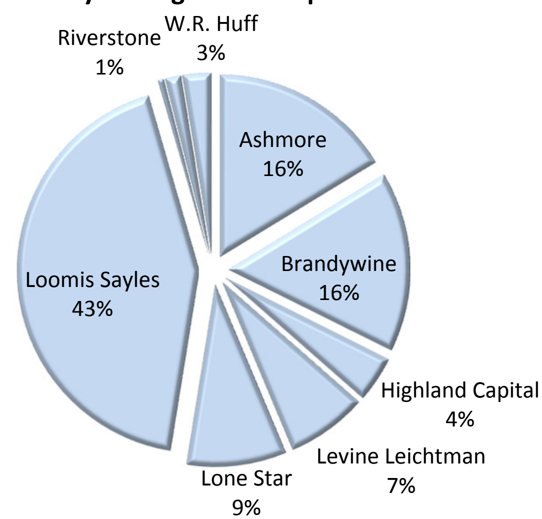
Manager Risk vs Return (Sharpe) as at September 2016



Twelve Month Compounded Performance as at September 2016



Exposure by Manager as at September 2016



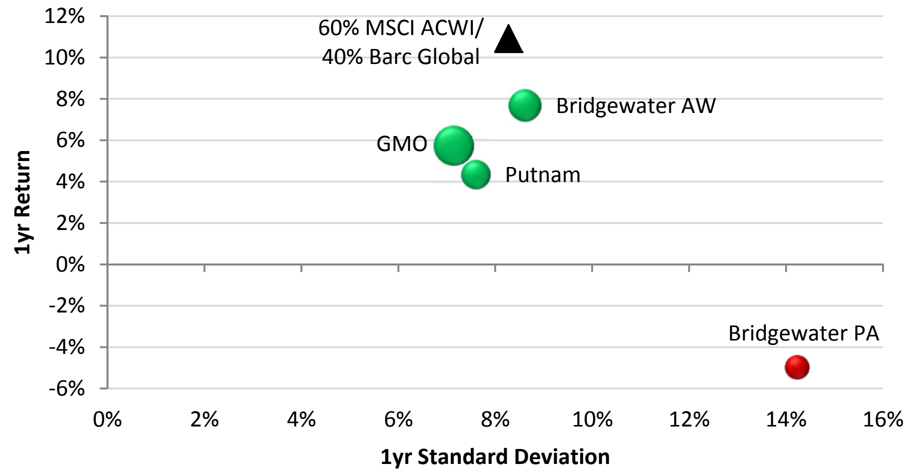
Data as at September 2016
Asset Allocation Overview

Commentary

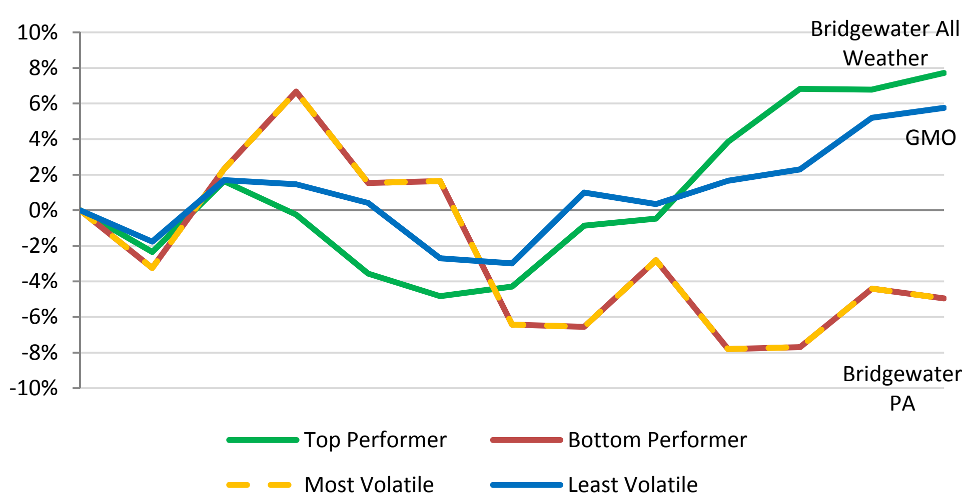
- Hedge funds closed the third quarter with strong returns in September, their seventh consecutive month of positive performance. The HFRI Fund Weighted Composite Index and the HFRI Fund of Funds Composite Index both gained 0.6% for the month.
- Equity Strategies (+1.1%) led the pack of hedge fund strategies in September, rounding out a strong quarter (up 4.9%) and recovered early year declines to bring year-to-date performance to up 4.5%. September performance was led by the healthcare and technology sector alpha.
- Event Driven Strategies (+0.7%) saw strong performance for the third consecutive month, driven by contributions from merger arbitrage, credit and distressed strategies. Credit (+0.5%) and Distressed (+1.3%) funds had another strong month thanks to credit spread tightening and positive developments across a number of distressed situations.
- Global Macro and Systematic Macro continued to give back some of the summer's strong gains with losses of 0.3% and 0.7% performances in September, respectively. Some discretionary managers and most systematic global macro strategies were hurt by the sell-off in global fixed income while most systematic strategies were wrongly positioned for the rally in commodities, particularly energy.
- Relative Value (+0.9%) strategies also advanced in September as fixed income arbitrage managers capitalized on European fixed income relative value trading and long biased volatility arbitrage managers generated modest gains.

Source – Cliffwater

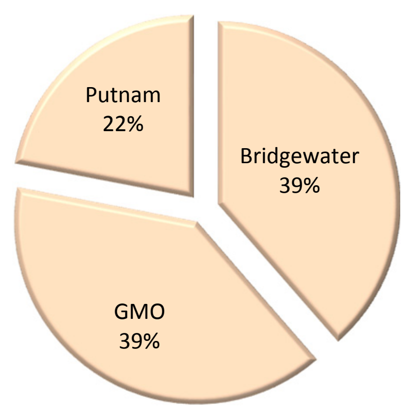
Manager Risk vs Return (Sharpe) as at September 2016



Twelve Month Compounded Performance as at September 2016



Exposure by Manager as at September 2016



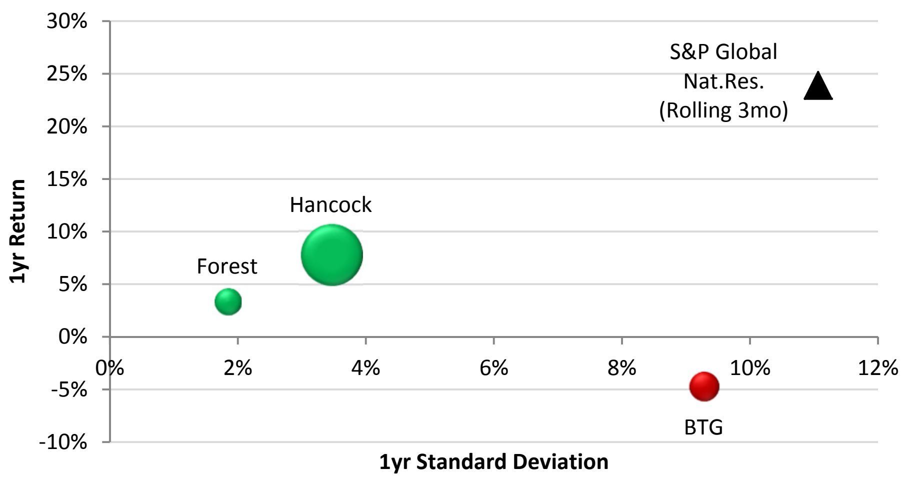
Data as at September 2016
Natural Resources Overview

Commentary

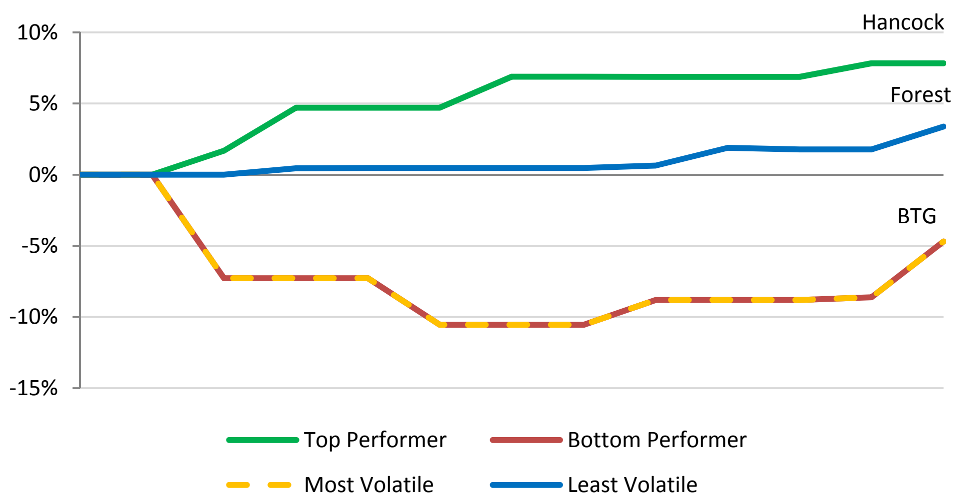
- Brent crude oil (–2.2% total return in the index) and West Texas Intermediate (–5.0%) experienced considerable volatility during the period as inventories (though moderating) remained elevated. Following a pronounced rally in the first half of the year, crude oil suffered a sizable pullback in July before settling into a range, with moves up and down centered on waxing and waning expectations for an elusive production limit agreement among members of the Organization of Petroleum Exporting Countries (OPEC) and non-OPEC exporters. A late-September agreement in principal within OPEC to curb production by as much as 800,000 barrels per day helped pare the market's loss.
- Natural gas (–8.0%) suffered a decline in early August before partially clawing its way back as storage injections came in below expectations amid slowing U.S. production. In the process, the natural gas storage surplus narrowed to less than 10% above its five-year average.
- Gold (–0.8%) rallied early in the quarter and then proceeded to trend lower as expectations for Fed tightening increased. Silver (+2.6%) fared slightly better but largely mirrored gold's performance, reaching a two-year high before trending lower throughout the rest of the period.
- Soybeans (–17.3%), corn (–10.7%) and wheat (–14.1%) were weighed down by ideal growing conditions and the expectation of record yields. Wheat stocks ended the quarter 21% higher than year-ago levels and prices were further hampered by reports that Russia would incentivize overseas sales by eliminating its export tax

Source – Cohen & Steers

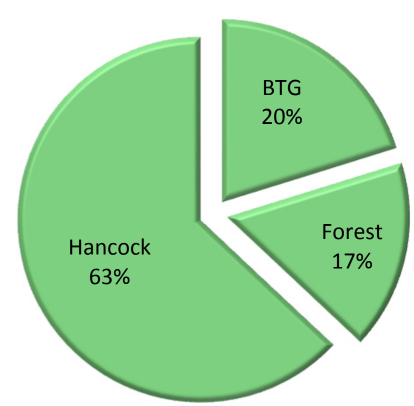
Manager Risk vs Return (Sharpe) as at September 2016



Twelve Month Compounded Performance as at September 2016



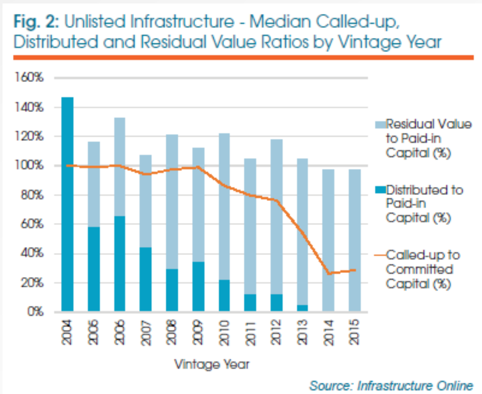
Exposure by Manager as at September 2016



Data as at September 2016
Infrastructure Overview

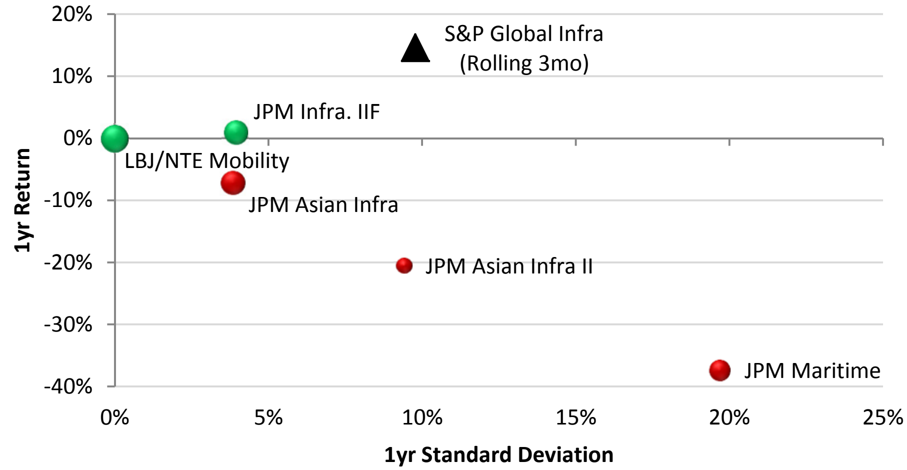
Commentary

- The below chart shows that distributed to paid-in capital (DPI) is generally lower in the early years of the investment cycle for infrastructure funds, reflecting the types of assets invested in. 2004 vintage infrastructure funds have a median DPI of 146.7%, with no residual value remaining and a net multiple of 1.46X. Unrealized residual value accounts for the largest proportion of paid-in capital for all vintage years from 2006.

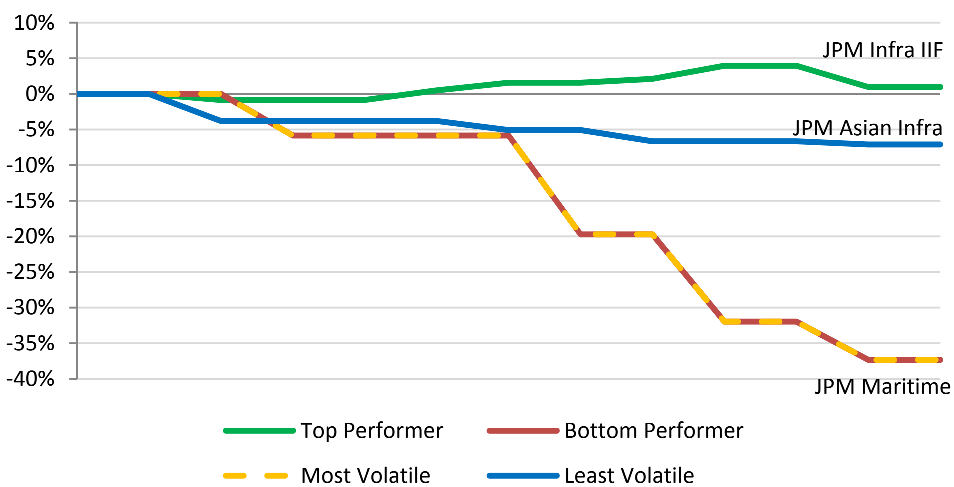


Source – Preqin

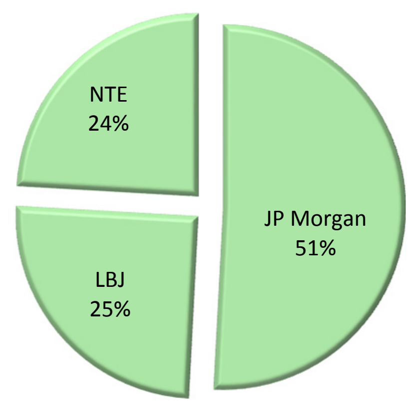
Manager Risk vs Return (Sharpe) as at September 2016



Twelve Month Compounded Performance as at September 2016



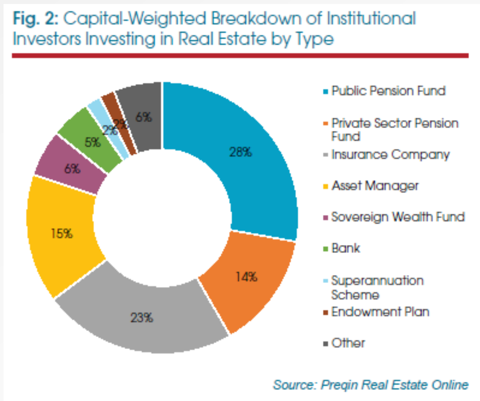
Exposure by Manager as at September 2016



Data as at September 2016
Real Estate Overview

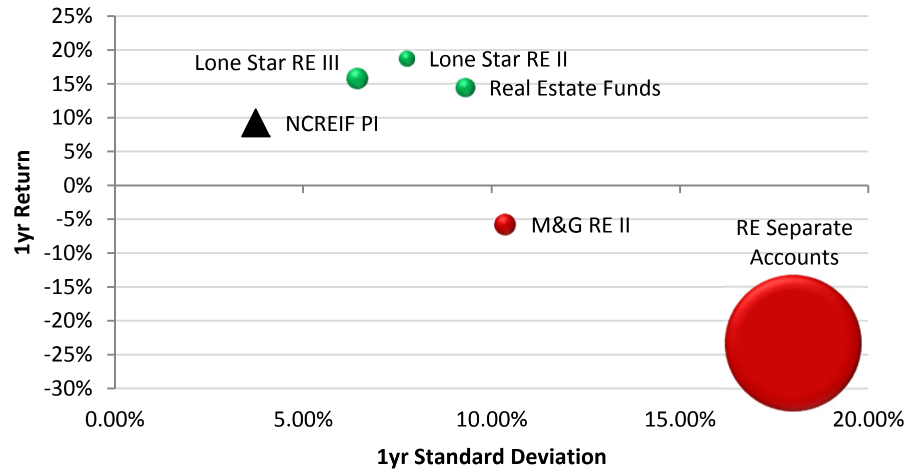
Commentary

- Despite greater participation from those in the private sector, public pension funds currently allocate more than double the amount of capital to the asset class: $681bn compared with the $340bn allocated by private sector pension funds – 28% and 14% of all capital allocated to real estate respectively.

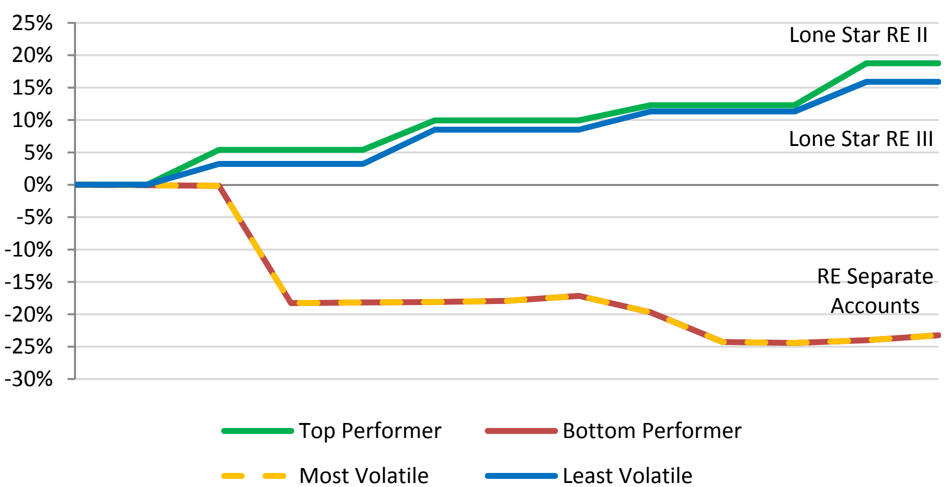


Source – Preqin

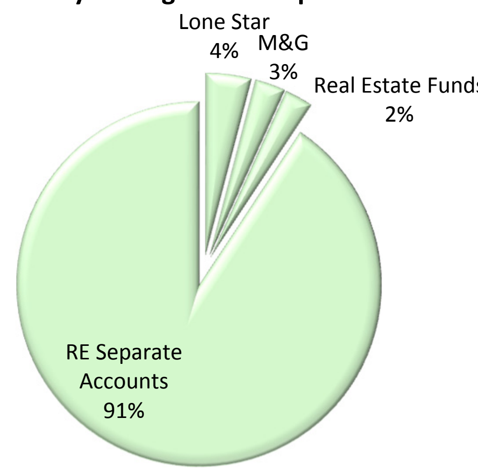
Manager Risk vs Return (Sharpe) as at September 2016



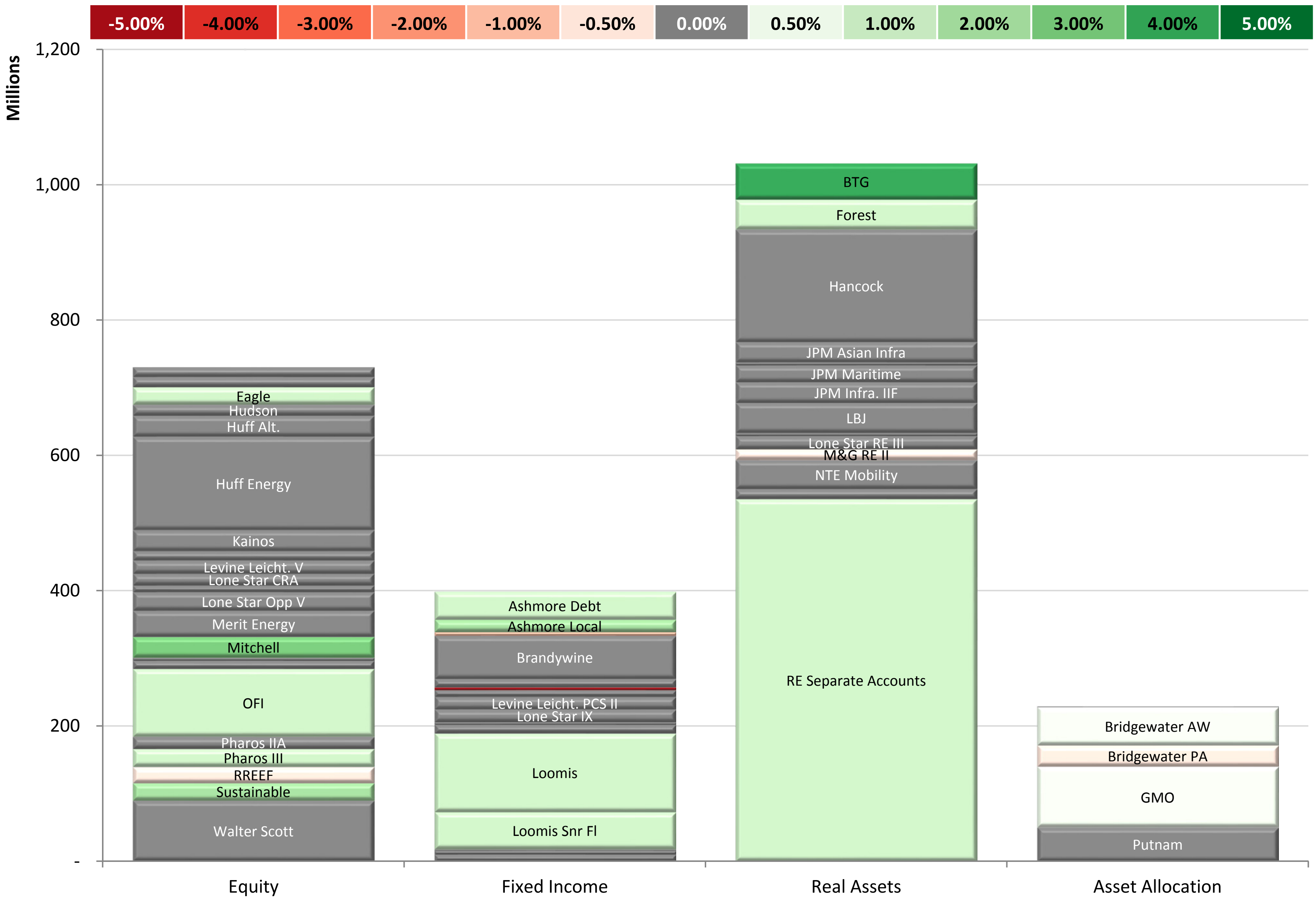
Twelve Month Compounded Performance as at September 2016



Exposure by Manager as at September 2016

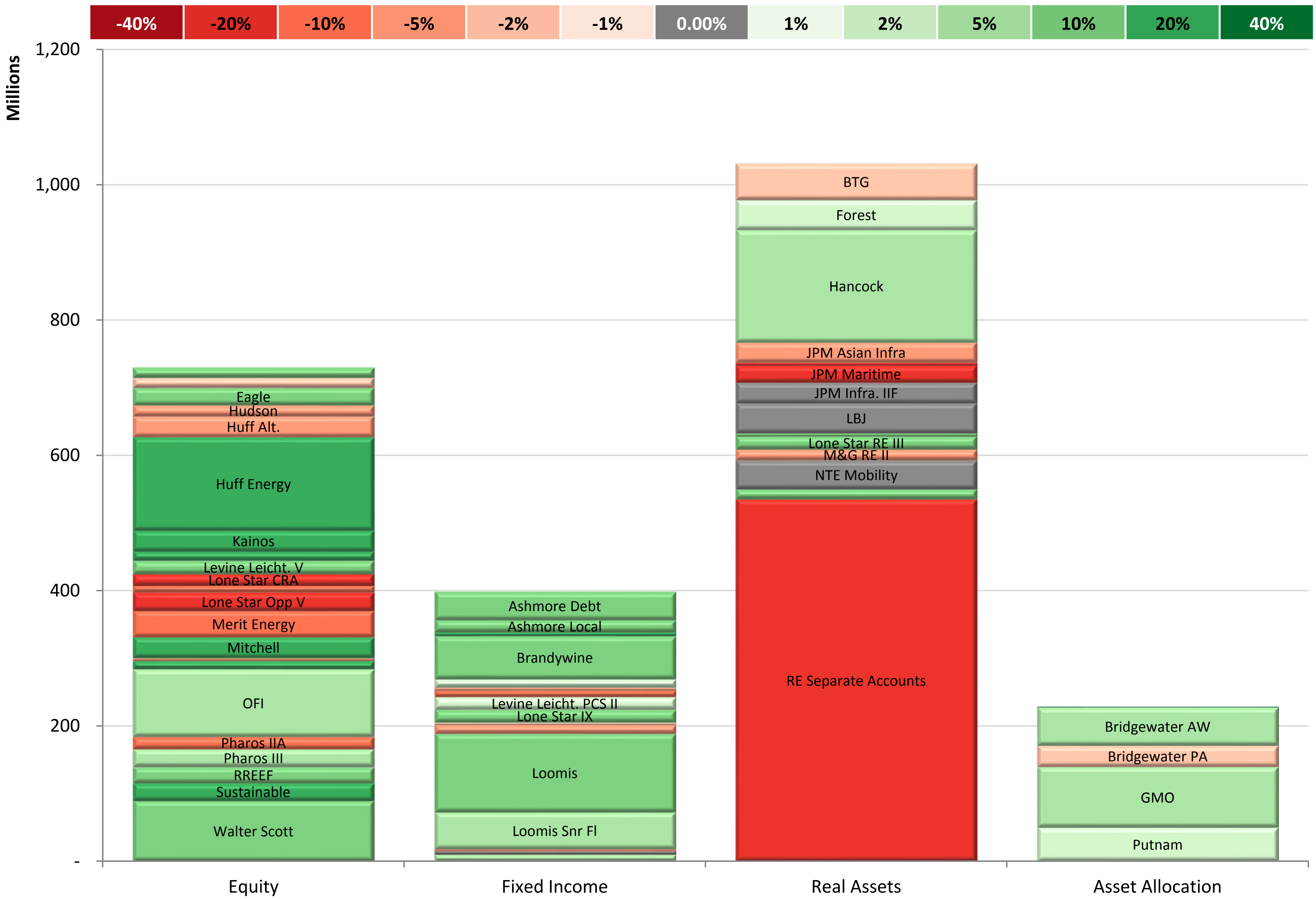


Data as at September 2016
One Month Performance Heat Map

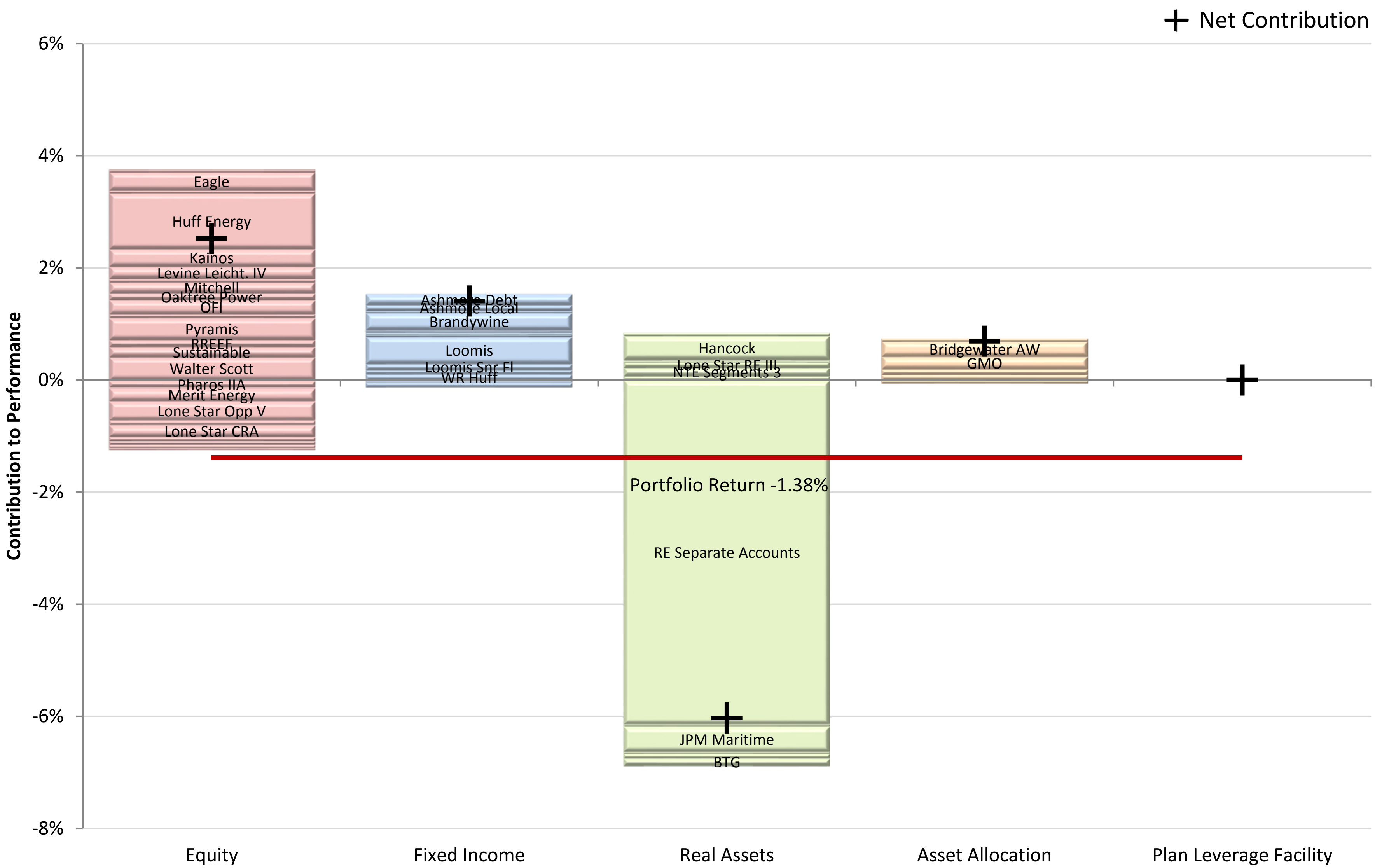


Private assets only report on a quarterly basis therefore the one month return is often unchanged.

Data as at September 2016
Twelve Month Performance Heat Map



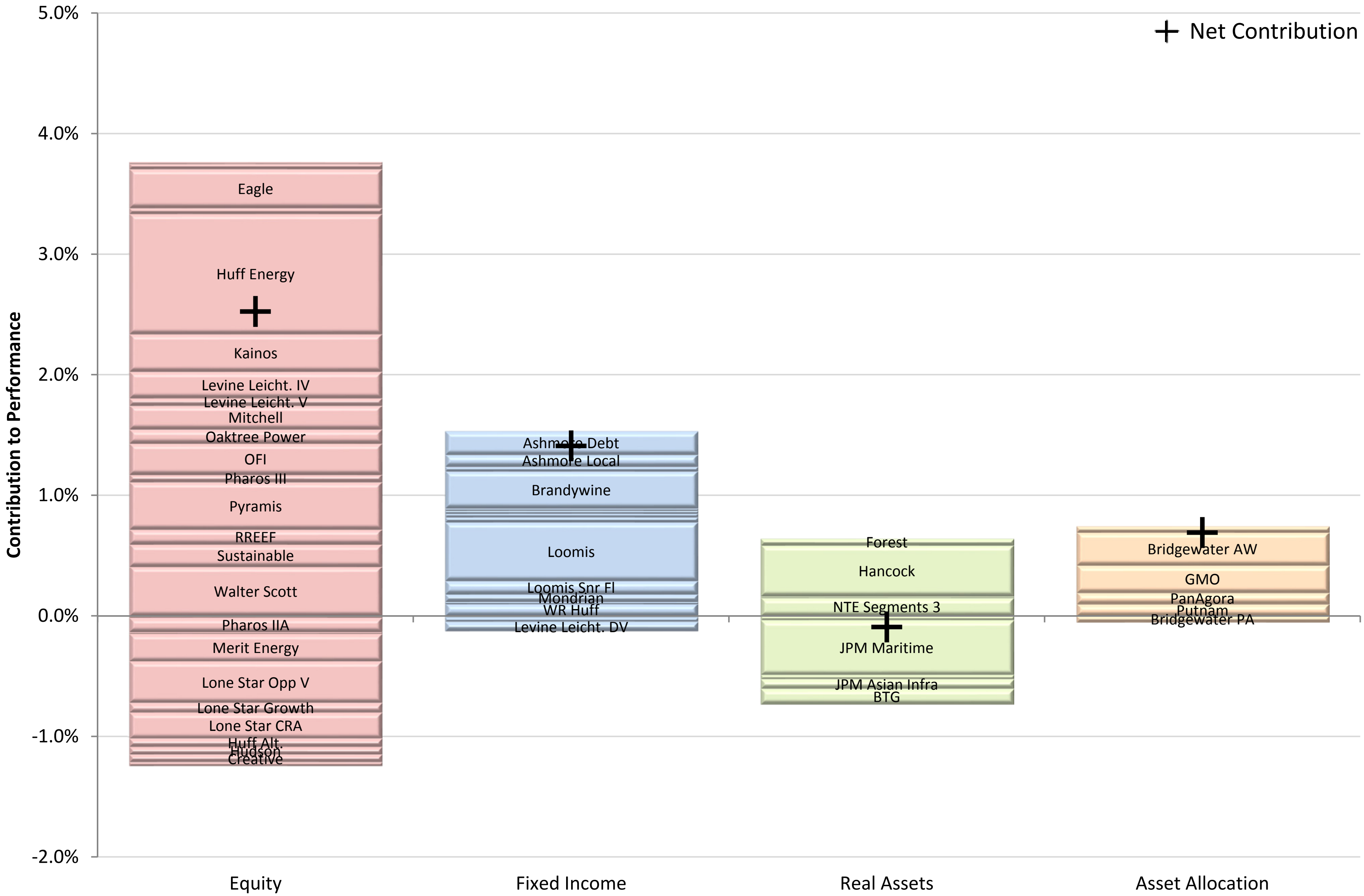
Data as at September 2016
Twelve Month Contribution to Performance



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

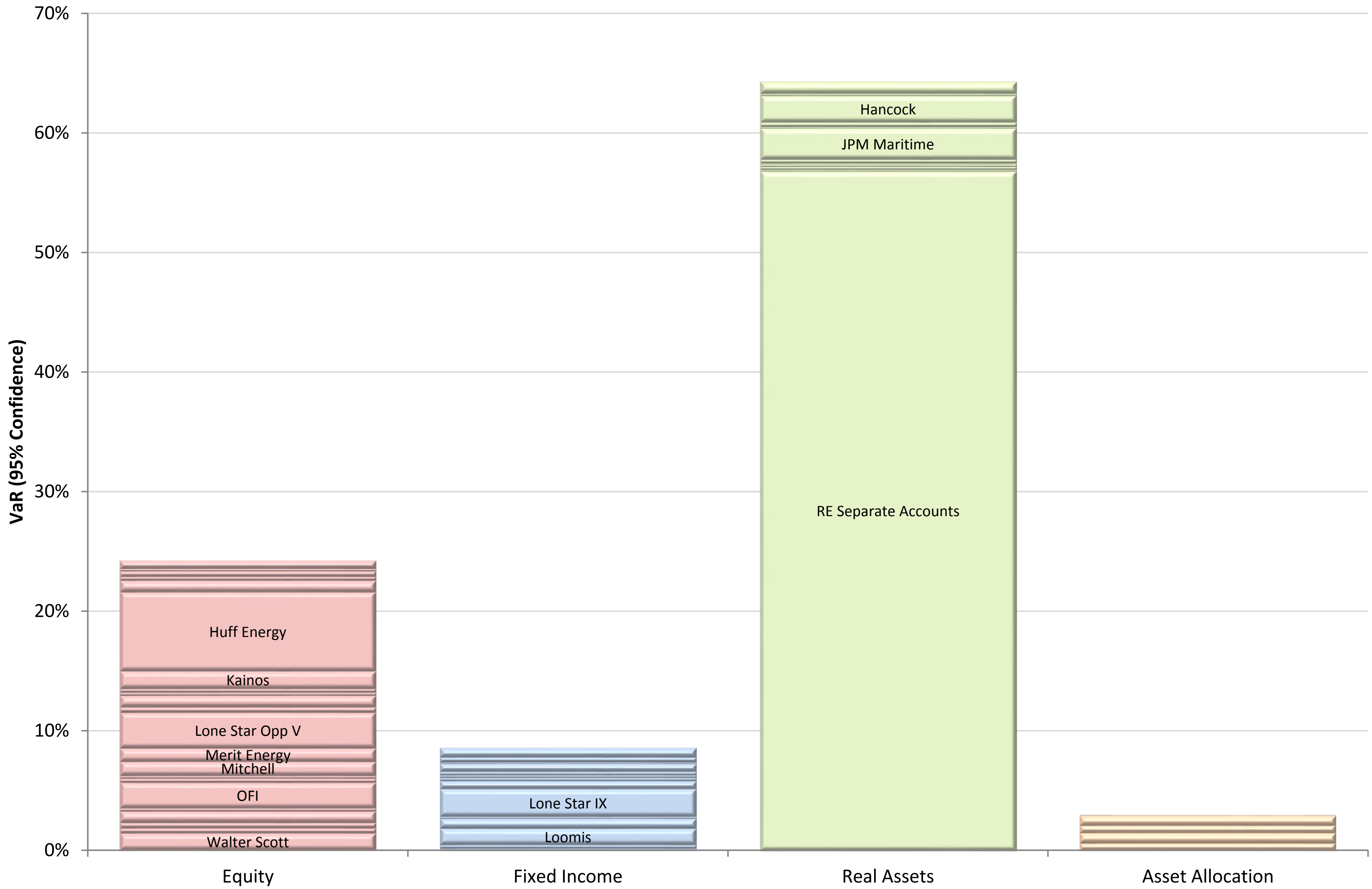
Data as at September 2016

Twelve Month Contribution to Performance excluding Real Estate



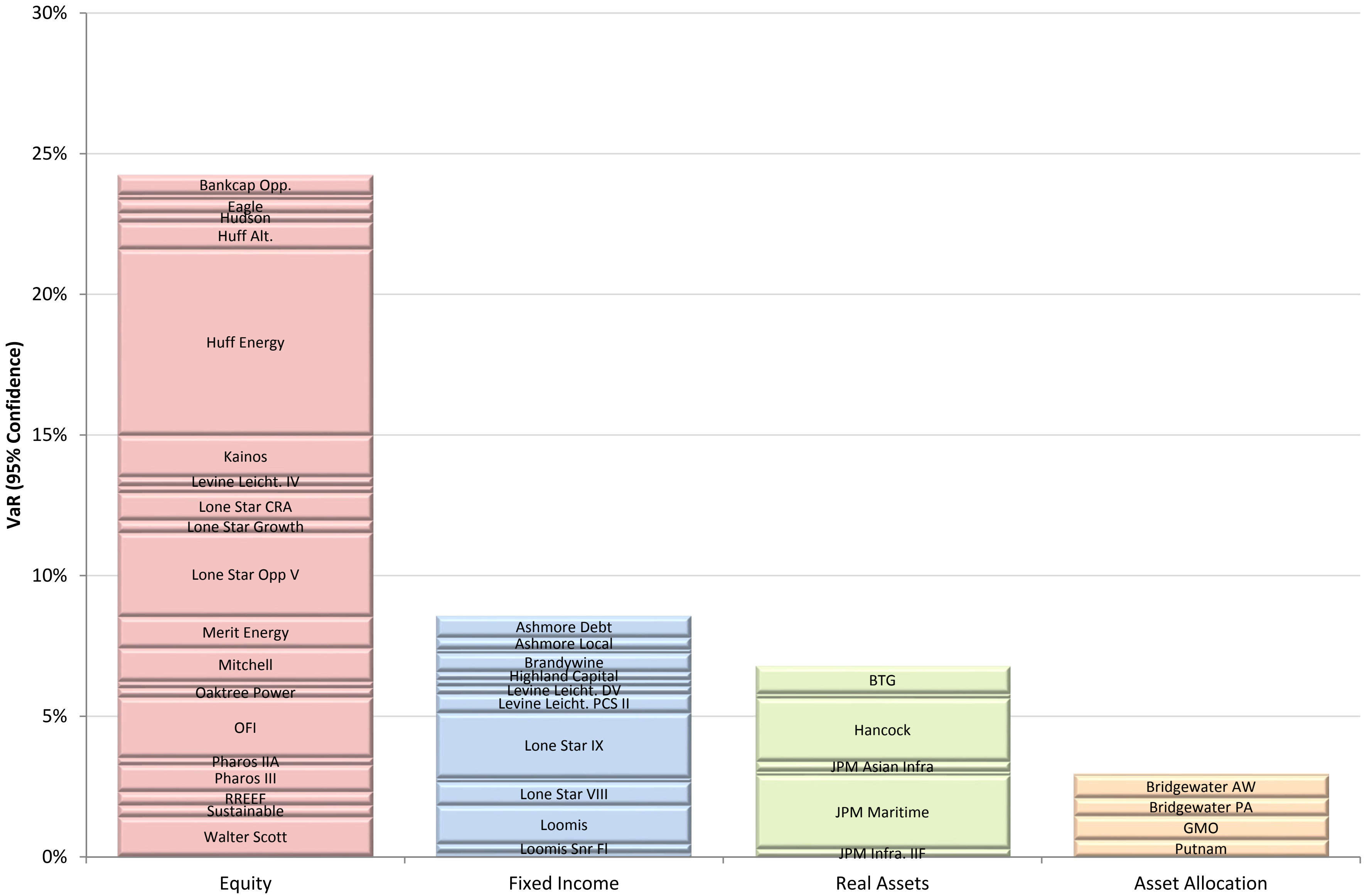
** Returns presented are calculated using custodian bank month-end source data and values. The returns shown here will differ from actuary calculated returns and returns presented by NEPC.*

Data as at September 2016
Five Year Contribution to Risk



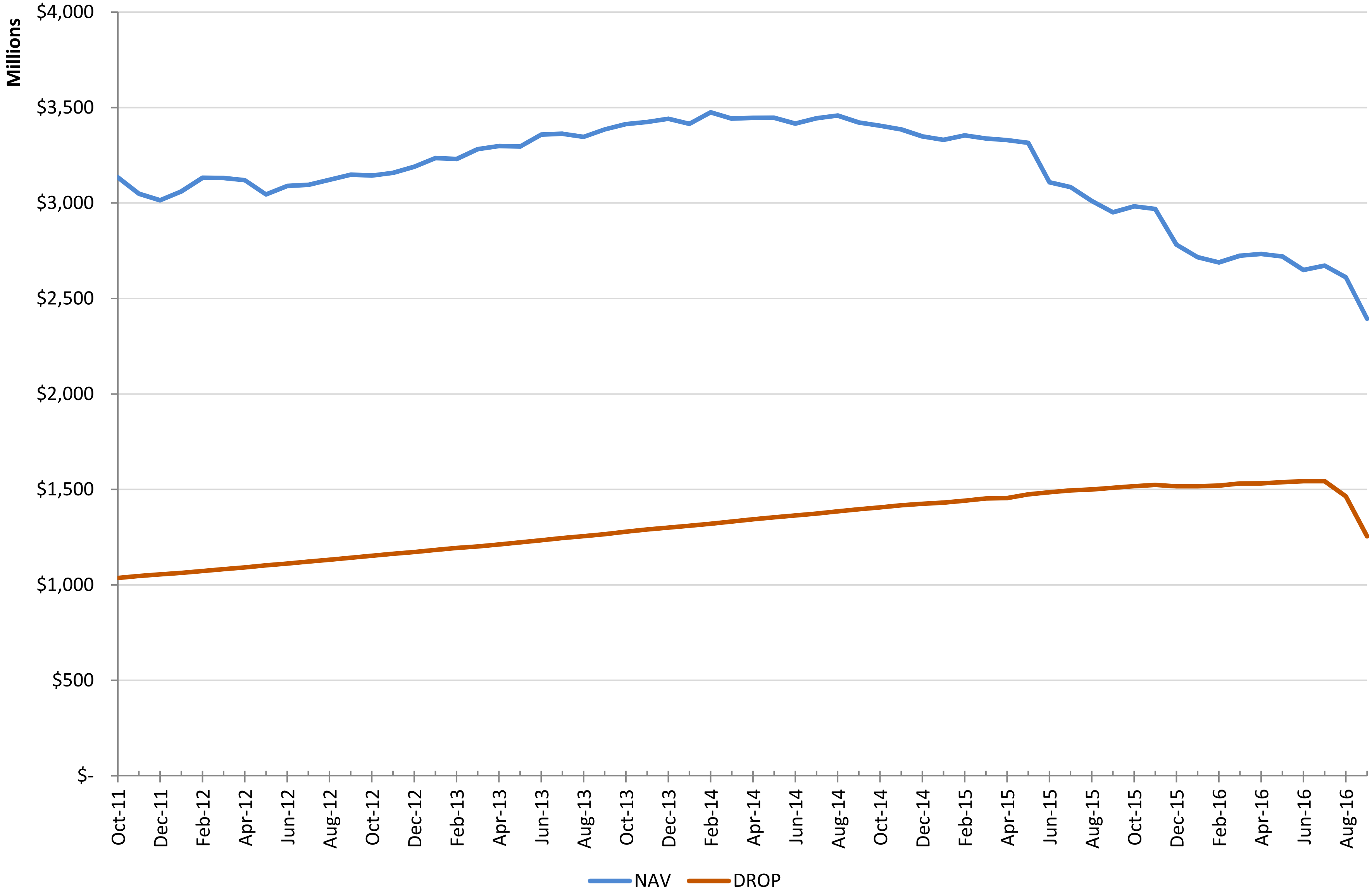
** VaR is expressed, on a position basis, as a percentage of the total portfolio VaR.*

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



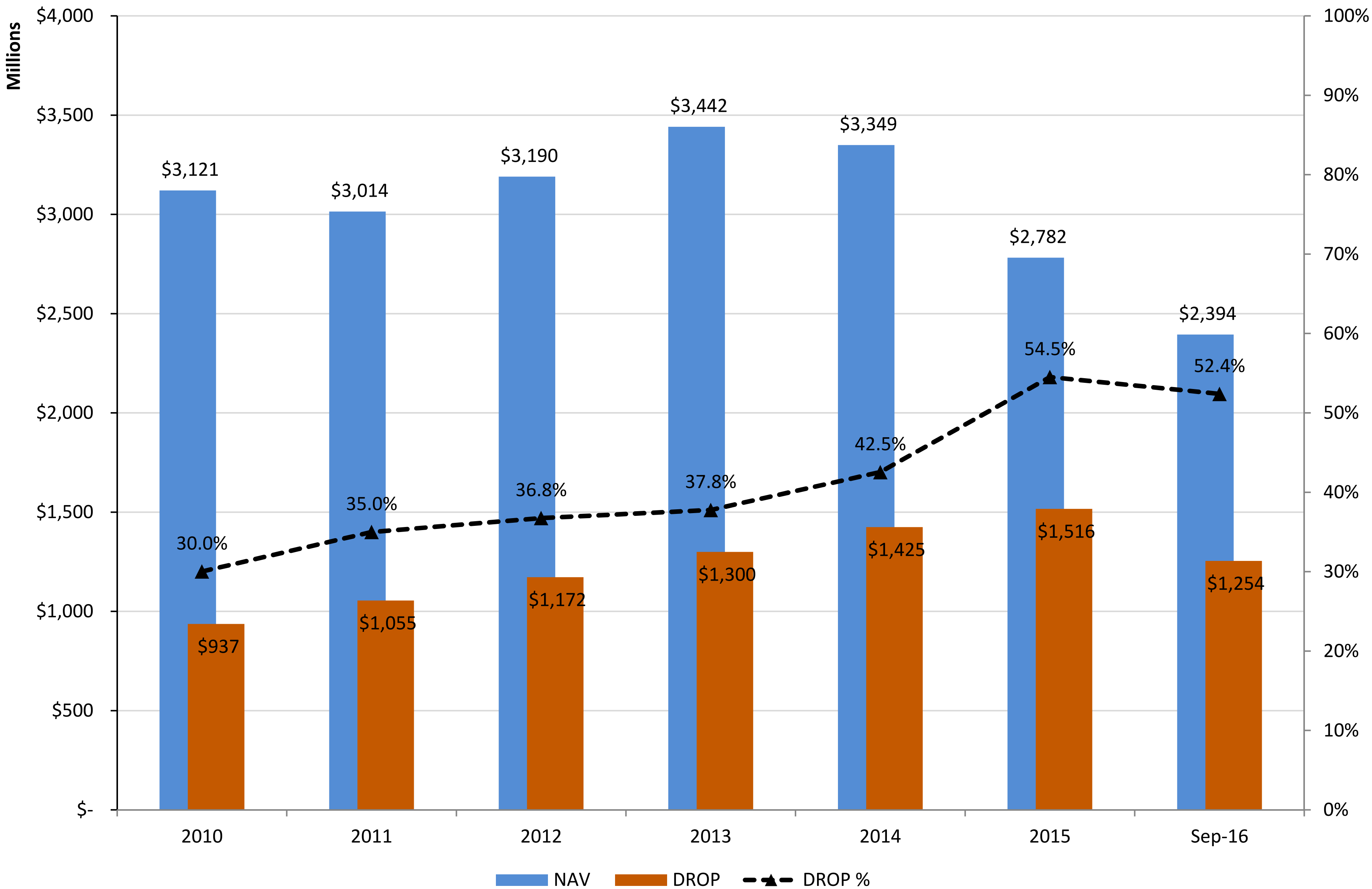
** VaR is expressed, on a position basis, as a percentage of the total portfolio VaR.*

Data as at September 2016
Monthly NAV & Drop Balances



On a rolling five year basis.

Data as at September 2016
DROP as % of NAV



Data as at September 2016
Manager Overview

Fund	Inception Date	Current Exposure	Net Allocation (%)	1M	3M	YTD	1yr	2yr	3yr	5yr
Portfolio	**Jun 1996**	**$ 2,394,387,505**		**0.66%**	**3.56%**	**2.87%**	**-1.38%**	**-6.03%**	**-2.71%**	**1.79%**
Plan Leverage Facility	**Mar 2014**	**$ (140,000,000)**		**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.66%**	**n/a**	**n/a**
EQUITY		**$ 730,166,124**	**30.49%**	**0.45%**	**6.86%**	**5.32%**	**8.02%**	**-0.85%**	**0.24%**	**6.44%**
Global Equity	**Jul 2006**	**$ 296,402,234**	**12.38%**	**0.81%**	**5.81%**	**6.73%**	**11.58%**	**2.47%**	**4.58%**	**10.67%**
MSCI ACWI				*0.61%*	*5.30%*	*6.60%*	*11.96%*	*2.23%*	*5.17%*	*10.63%*
Eagle Asset Management	Feb 2005	$ 25,877,602	1.08%	1.80%	9.87%	15.12%	18.70%	11.52%	10.41%	16.29%
Mitchell Group	Oct 2001	$ 30,750,907	1.28%	3.08%	5.42%	28.25%	21.95%	-11.78%	-5.06%	4.26%
OFI Global Institutional	Oct 2007	$ 100,490,519	4.20%	1.07%	9.01%	-0.55%	6.00%	1.81%	4.70%	12.12%
Pyramis (Fidelity)	Mar 2002	$ 294,953	0.01%	-0.07%	3.86%	3.55%	8.50%	1.76%	5.02%	11.27%
RREEF	Feb 1999	$ 23,799,279	0.99%	-0.81%	0.96%	9.98%	14.35%	8.56%	7.90%	12.80%
Sustainable Asset Management	Nov 2008	$ 25,771,219	1.08%	2.05%	5.81%	14.44%	21.77%	7.87%	8.69%	14.05%
Walter Scott	Dec 2009	$ 89,417,755	3.73%	0.18%	3.11%	7.76%	13.05%	4.34%	5.49%	11.08%
Private Equity	**Oct 2005**	**$ 433,763,891**	**18.12%**	**0.09%**	**7.93%**	**3.87%**	**3.46%**	**-4.81%**	**-5.59%**	**0.38%**
Russell 3000 + 3% (Rolling 3mo)				*4.64%*	*4.64%*	*8.88%*	*15.95%*	*7.98%*	*11.52%*	*17.43%*
BankCap Opportunity Fund	Aug 2013	$ 14,643,325	0.61%	0.00%	-0.05%	12.46%	10.45%	-1.80%	-19.81%	n/a
BankCap Partners	Feb 2007	$ 14,996,936	0.63%	0.00%	2.42%	-4.32%	-4.98%	-3.06%	-0.46%	-0.67%
Hudson Clean Energy	Aug 2009	$ 16,214,498	0.68%	0.00%	-8.23%	-9.81%	-9.95%	-4.86%	-4.85%	-8.13%
Huff Alternative Fund	Jun 2001	$ 31,068,922	1.30%	0.00%	2.23%	2.23%	-6.17%	-0.91%	-0.60%	1.40%
Huff Energy Fund LP	Dec 2005	$ 137,907,480	5.76%	0.00%	25.23%	25.23%	25.12%	-3.78%	-11.94%	-4.72%
Industry Ventures Partnership Holdings IV, LP	Jul 2016	$ 200,000	0.01%	0.00%	0.00%	n/a	n/a	n/a	n/a	n/a
Kainos Capital Partners	Jan 2014	$ 30,650,534	1.28%	0.00%	7.62%	24.57%	35.09%	31.50%	n/a	n/a
Levine Leichtman Capital Partners IV	Apr 2008	$ 14,125,180	0.59%	0.18%	5.12%	19.16%	30.11%	5.92%	13.64%	16.94%
Levine Leichtman Capital Partners V	Aug 2013	$ 19,407,968	0.81%	0.39%	2.72%	7.83%	10.35%	18.65%	11.02%	n/a
Lone Star CRA	Jul 2008	$ 17,318,371	0.72%	0.00%	1.72%	-38.38%	-37.47%	-38.14%	-21.06%	-5.00%
Lone Star Growth Capital	Dec 2006	$ 10,146,152	0.42%	0.00%	2.66%	-20.16%	-18.15%	-1.72%	-13.55%	1.45%
Lone Star Opportunities V	Jan 2012	$ 27,177,237	1.14%	0.00%	2.25%	-37.58%	-36.85%	-17.11%	-9.04%	n/a
Merit Energy E, F, G, H	Oct 2004	$ 38,659,167	1.61%	0.00%	-0.42%	-10.66%	-15.10%	-17.57%	-5.00%	-0.46%
North Texas Opportunity Fund	Aug 2000	$ 4,612,834	0.19%	0.00%	-1.76%	-8.60%	-8.66%	-30.46%	-14.81%	-13.68%
Oaktree Power Opportunities Fund III	Apr 2011	$ 11,899,312	0.50%	0.00%	0.23%	12.12%	28.72%	14.19%	12.23%	8.16%
Pharos IIA	Aug 2005	$ 17,758,668	0.74%	0.00%	-2.83%	-8.98%	-16.22%	-12.28%	-6.68%	0.16%
Pharos III	Dec 2012	$ 26,466,229	1.11%	1.21%	3.59%	6.55%	6.84%	5.38%	-4.95%	n/a
Yellowstone Capital	Sep 2008	$ 511,079	0.02%	0.00%	-0.05%	-15.90%	-45.20%	-47.37%	-43.02%	-33.84%
Cash & Cash Equivalents		**$ 145,817,769**	**6.09%**	**0.05%**	**0.18%**	**1.07%**	**1.10%**	**0.63%**	**0.39%**	**-0.66%**

Data as at September 2016
Manager Overview (cont.)

Fund	Inception Date	Current Exposure	Net Allocation (%)	1M	3M	YTD	1yr	2yr	3yr	5yr
FIXED INCOME	**Jul 2006**	**$ 398,322,681**	**16.64%**	**0.53%**	**3.04%**	**10.82%**	**8.44%**	**1.74%**	**2.66%**	**4.55%**
Bank Loans		**$ 54,958,518**	**2.30%**	**0.99%**	**4.00%**	**9.41%**	**5.69%**	**3.02%**	**n/a**	**n/a**
S&P Leveraged Loan Index				*0.60%*	*2.97%*	*8.49%*	*6.05%*	*2.47%*	*2.76%*	*5.09%*
Loomis Sayles Sr. Floating Rate	Jan 2014	$ 54,958,518	2.30%	0.99%	4.00%	9.41%	5.69%	3.02%	n/a	n/a
EM Debt		**$ 59,566,431**	**2.49%**	**2.05%**	**6.35%**	**13.64%**	**14.84%**	**1.26%**	**3.13%**	**2.74%**
JPM EMBI + JPM GBI-EM				*1.21%*	*3.24%*	*15.87%*	*16.60%*	*2.09%*	*2.71%*	*3.89%*
Ashmore EM Debt Fund	Feb 2005	$ 41,183,657	1.72%	1.96%	8.04%	11.31%	13.28%	3.27%	5.98%	4.01%
Ashmore EM Local CCY	Mar 2011	$ 18,382,773	0.77%	2.23%	2.77%	18.65%	17.77%	-3.47%	-2.87%	-0.01%
Global Bonds		**$ 63,907,654**	**2.67%**	**0.27%**	**1.34%**	**10.40%**	**9.53%**	**1.91%**	**2.33%**	**2.44%**
Barclays Global Aggregate				*0.55%*	*0.81%*	*9.84%*	*8.82%*	*2.60%*	*2.13%*	*1.73%*
Brandywine	Oct 2004	$ 63,905,851	2.67%	0.27%	1.35%	10.57%	10.09%	0.85%	1.97%	3.12%
Mondrian Investment Partners	Oct 2003	$ 1,803	0.00%	2.19%	-0.73%	1.23%	-0.06%	-1.14%	-0.12%	0.02%
High Yield		**$ 126,336,000**	**5.28%**	**1.00%**	**5.85%**	**17.37%**	**10.69%**	**0.50%**	**2.88%**	**6.49%**
Barclays Global HY				*0.78%*	*5.30%*	*14.49%*	*13.51%*	*4.20%*	*4.97%*	*8.56%*
Loomis Sayles	Oct 1998	$ 116,160,371	4.85%	1.26%	6.66%	19.02%	11.22%	1.14%	4.04%	8.01%
W.R. Huff High Yield	Jun 1996	$ 10,175,628	0.42%	0.14%	3.53%	12.31%	7.87%	-1.41%	0.46%	3.77%
Private Debt		**$ 93,554,079**	**3.91%**	**-1.28%**	**-2.81%**	**-0.20%**	**1.76%**	**4.61%**	**2.41%**	**4.98%**
Barclays Global HY + 2% (Rolling 3mo)				*5.82%*	*5.82%*	*16.18%*	*15.75%*	*6.28%*	*7.06%*	*10.72%*
Ashmore GSSF IV	Oct 2007	$ 5,392,879	0.23%	-1.26%	3.10%	24.94%	23.69%	9.52%	-2.32%	-7.64%
Highland Capital Management	Jan 2007	$ 12,431,871	0.52%	0.00%	0.00%	0.00%	3.04%	-0.99%	3.03%	14.30%
Highland Crusader Fund	Jul 2003	$ 3,913,679	0.16%	-23.11%	-23.53%	0.16%	-5.19%	-4.47%	-4.70%	11.32%
Levine Leichtman Capital Partners Deep Value	Oct 2006	$ 9,922,767	0.41%	0.00%	-15.23%	-16.88%	-16.67%	5.64%	-4.76%	-4.34%
Levine Leichtman Capital Partners PCS II	Feb 2012	$ 18,805,988	0.79%	0.30%	-1.25%	4.85%	4.93%	-1.09%	2.77%	n/a
Lone Star Fund IX, LP	Apr 2015	$ 18,942,739	0.79%	0.02%	2.15%	3.88%	16.42%	n/a	n/a	n/a
Lone Star Fund VII, LP	Jul 2011	$ 3,513,736	0.15%	0.00%	-4.03%	-13.03%	-2.76%	4.26%	24.37%	38.88%
Lone Star Fund VIII, LP	Jun 2013	$ 12,887,146	0.54%	0.00%	-3.58%	-12.07%	-6.85%	13.24%	14.22%	n/a
Oaktree Fund IV & 2x Loan Fund	Jan 2002	$ 2,112,594	0.09%	0.00%	7.14%	-2.09%	-14.03%	-12.69%	-3.89%	0.74%
Riverstone Credit Partners LP	Jun 2016	$ 5,630,681	0.24%	0.00%	13.54%	n/a	n/a	n/a	n/a	n/a
ASSET ALLOCATION	**Jul 2007**	**$ 228,850,319**	**9.56%**	**0.41%**	**3.72%**	**5.65%**	**6.53%**	**0.46%**	**4.40%**	**4.24%**
GTAA		**$ 89,843,754**	**3.75%**	**0.53%**	**4.03%**	**4.24%**	**5.76%**	**-0.36%**	**3.46%**	**3.56%**
60% NDUEACWF / 40% Barc Global Agg				*0.59%*	*3.50%*	*8.02%*	*10.91%*	*2.56%*	*4.09%*	*7.15%*
GMO	Sep 2007	$ 89,843,754	3.75%	0.53%	4.03%	4.24%	5.76%	-0.36%	3.13%	4.72%
Risk Parity		**$ 107,630,457**	**4.50%**	**0.55%**	**3.67%**	**9.05%**	**8.77%**	**0.89%**	**5.09%**	**5.17%**
60% NDUEACWF / 40% Barc Global Agg				*0.59%*	*3.50%*	*8.02%*	*10.91%*	*2.56%*	*4.09%*	*7.15%*
AQR	Oct 2013	$ 927,465	0.04%	0.00%	61.60%	72.17%	71.39%	24.65%	19.81%	n/a
Bridgewater All Weather	Sep 2007	$ 56,578,094	2.36%	0.88%	3.73%	7.98%	7.72%	-1.04%	4.93%	4.79%
Putnam	Dec 2009	$ 50,124,899	2.09%	0.12%	3.15%	4.88%	4.38%	0.52%	3.61%	4.38%
Absolute Return		**$ 31,376,108**	**1.31%**	**-0.58%**	**3.09%**	**-10.90%**	**-4.95%**	**0.90%**	**5.13%**	**3.79%**
Bridgewater Pure Alpha		$ 31,376,108	1.31%	-0.58%	3.09%	-10.90%	-4.95%	0.90%	5.13%	3.79%

Data as at September 2016

Manager Overview (cont.)

Fund	Inception Date	Current Exposure	Net Allocation (%)	1M	3M	YTD	1yr	2yr	3yr	5yr
REAL ASSETS	Mar 2015	**$ 1,031,230,611**	**43.07%**	**0.90%**	**1.02%**	**-2.98%**	**-13.34%**	**-13.22%**	**-8.24%**	**-3.93%**
Natural Resources	Apr 2015	**$ 263,910,076**	**11.02%**	**1.43%**	**1.98%**	**2.92%**	**3.35%**	**6.80%**	**8.25%**	**7.38%**
S&P Global Nat. Res. (Rolling 3mo)				*5.88%*	*5.88%*	*23.34%*	*23.89%*	*-7.68%*	*-4.40%*	*-0.61%*
BTG Pactual Asset Management	Oct 2006	$ 53,338,418	2.23%	4.28%	4.50%	2.78%	-4.70%	-5.73%	-4.35%	-5.97%
Forest Investment Associates	Jan 1992	$ 44,261,286	1.85%	1.58%	1.47%	2.92%	3.39%	5.38%	5.82%	4.31%
Hancock Agricultural	Dec 2002	$ 166,310,372	6.95%	0.00%	0.88%	2.98%	7.82%	16.00%	17.69%	18.25%
Infrastructure	Jul 2012	**$ 176,893,918**	**7.39%**	**0.00%**	**-1.89%**	**-4.35%**	**-5.74%**	**-5.25%**	**-0.82%**	**0.13%**
S&P Global Infra (Rolling 3mo)				*2.71%*	*2.71%*	*17.19%*	*14.61%*	*2.48%*	*7.01%*	*9.78%*
JP Morgan Asian Infrastructure	Aug 2008	$ 30,118,708	1.26%	0.00%	-0.50%	-3.44%	-7.11%	-5.92%	-2.89%	1.36%
JP Morgan Asian Infrastructure II	Mar 2014	$ 4,154,324	0.17%	0.00%	-6.55%	-14.49%	-20.45%	-7.77%	n/a	n/a
JP Morgan Global Maritime	Jun 2010	$ 24,983,971	1.04%	0.00%	-7.89%	-33.44%	-37.33%	-29.94%	-0.10%	-43.08%
JP Morgan Infrastructure IIF	Oct 2007	$ 30,665,336	1.28%	0.00%	-2.86%	1.84%	0.97%	-0.95%	2.90%	3.71%
LBJ Infrastructure Group Holdings	Jun 2010	$ 44,346,035	1.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NTE Mobility Partners	Dec 2009	$ 42,625,545	1.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Real Estate	Mar 1985	**$ 590,426,617**	**24.66%**	**0.91%**	**1.41%**	**-5.11%**	**-21.18%**	**-20.90%**	**-14.90%**	**-8.39%**
NCREIF Property Index				*1.77%*	*1.77%*	*6.13%*	*9.22%*	*11.33%*	*11.30%*	*11.18%*
Lone Star RE II	Sep 2011	$ 4,629,193	0.19%	0.00%	5.77%	12.67%	18.76%	46.05%	40.50%	26.34%
Lone Star RE III	May 2014	$ 19,411,970	0.81%	0.00%	4.10%	12.28%	15.89%	17.04%	n/a	n/a
M&G Real Estate Debt Fund II, LP	Dec 2013	$ 16,061,866	0.67%	-0.82%	-0.44%	-5.44%	-5.73%	-0.64%	n/a	n/a
RE Separate Accounts		$ 535,415,043	22.36%	1.02%	1.37%	-6.07%	-23.24%	-23.37%	-16.76%	-10.22%
Real Estate Funds	Jan 1999	$ 14,908,544	0.62%	0.00%	0.33%	8.60%	14.48%	7.68%	6.97%	5.37%

** "Real Estate Funds" includes LSF III – VI, LSREF, Hearthstone and Olympus funds.*

Data as at September 2016

Appendix I – Stress Test Scenarios, Proxies, Policy Composition

Stress Test Scenarios

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

Stress Test Proxies

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

**Proxies for stress tests are chosen based on correlation analysis of portfolio returns to tradeable ETFs.*

Policy Composition

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

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

Data as at September 2016

Appendix II – Attribution Methodology

Attribution details

Single period attribution uses arithmetic attribution per the Brinson Model

$$Asset\ Allocation = \sum_j \left(w_j^p - w_j^b\right) \times \left(r_j^b - r_{total}^b\right)$$

$$Stock\ Selection = \sum_j w_j^b \times \left(r_j^p - r_j^b\right)$$

$$Interaction = \sum_j \left(w_j^p - w_j^b\right) \times \left(r_j^p - r_j^b\right)$$

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

where

$$w_j^p = Weight\ of\ Portfolio\ component\ j$$
$$w_j^b = Weight\ of\ Benchmark\ component\ j$$
$$r_j^p = Return\ of\ Portfolio\ component\ j$$
$$r_j^b = Return\ of\ Benchmark\ component\ j$$
$$r_{total}^p = Total\ Return\ of\ Portfolio$$
$$r_{total}^b = Total\ Return\ of\ Benchmark$$

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

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

In the Frongello method, each original attribute (G_{itb}) is scaled by the portfolio total return through the prior period ($1+R_j$) and the current period return of the benchmark ($\overline{R_t}$) compounds with the total return due to that attribute through the prior period (F_{ijb})

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Limited Partnership: The standard vehicle for investment in private equity funds

Long Position: Owning a security

Management Fee: The annual fee paid to the general partner

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

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

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

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

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

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

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

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

Short Position: Selling a security

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

Data as at September 2016

Appendix III – Investment Terms & Performance Statistics (cont.)

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

Up Number: The percentage of the time the fund was up when the benchmark was up

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

Data as at September 2016
Appendix IV – Investment IRRs

Holding	Inception	IRR	End NAV	Subscriptions	Redemptions	Net Cashflows
Equity						
Eagle Asset Management	02/01/2005	8.03%	$ 25,877,602	$ 125,347,734	$ 206,800,000	$ 81,452,266
Mitchell Group	10/01/2001	12.98%	$ 30,750,907	$ 21,277,945	$ 38,450,000	$ 17,172,055
OFI Global Institutional	10/01/2007	4.98%	$ 100,490,519	$ 126,463,387	$ 75,500,000	$ (50,963,387)
Pyramis (Fidelity)	03/01/2002	6.54%	$ 294,953	$ 313,821,030	$ 435,200,000	$ 121,378,970
RREEF	02/01/1999	8.68%	$ 23,799,279	$ 28,277,404	$ 59,917,403	$ 31,639,999
Sustainable Asset Management	11/01/2008	11.39%	$ 25,771,219	$ 25,000,000	$ 28,000,000	$ 3,000,000
Walter Scott	12/01/2009	11.63%	$ 89,417,755	$ 101,587,415	$ 91,500,000	$ (10,087,415)
Fixed Income						
Ashmore EM Debt Fund	02/01/2005	9.55%	$ 41,183,657	$ 50,000,000	$ 65,443,440	$ 15,443,440
Ashmore EM Local CCY	03/01/2011	-0.68%	$ 18,382,773	$ 25,000,000	$ 5,798,794	$ (19,201,206)
Brandywine	10/01/2004	5.03%	$ 63,905,851	$ 212,613,712	$ 202,282,935	$ (10,330,777)
Loomis Sayles	10/01/1998	8.91%	$ 116,160,371	$ 194,861,505	$ 321,499,146	$ 132,017,062
Loomis Sayles Sr. Floating Rate	01/01/2014	3.38%	$ 54,958,518	$ 50,000,000	$ 849	$ (49,999,151)
W.R. Huff High Yield	06/01/1996	4.93%	$ 10,175,628	$ 101,585,758	$ 183,483,939	$ 81,898,181
Asset Allocation						
Bridgewater	09/01/2007	5.58%	$ 87,954,201	$ 94,175,000	$ 50,000,100	$ (44,174,900)
GMO	09/01/2007	3.73%	$ 89,843,754	$ 100,000,000	$ 40,001,426	$ (59,998,574)
Putnam	12/01/2009	4.79%	$ 50,124,899	$ 50,000,000	$ 14,000,000	$ (36,000,000)

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C5

Topic: **Quarterly financial reports**

Discussion: The Chief Financial Officer will present the third quarter 2016 financial statements.

DALLAS POLICE & FIRE PENSION SYSTEM
Combined Statements of Fiduciary Net Position

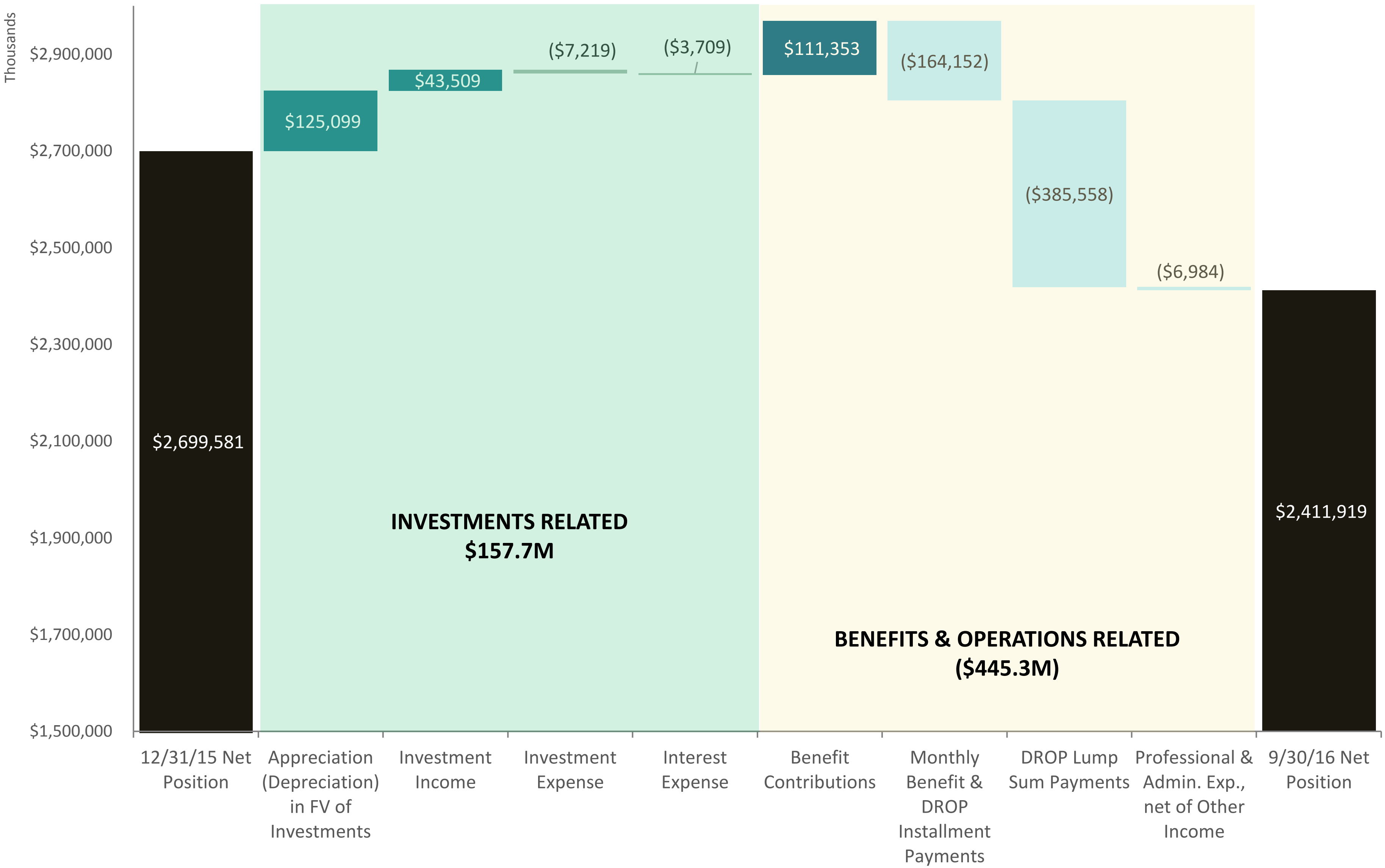
	9/30/2016 *(unaudited)*	12/31/15 *(audited)*
Assets		
Investments, at fair value		
Short-term investments	$ 79,964,750	$ 29,986,714
Fixed income securities	370,534,534	383,057,125
Equity securities	248,227,164	439,815,460
Real assets	1,031,229,965	1,135,348,482
Private equity	433,763,639	445,014,054
Alternative investments	228,847,637	395,025,520
Forward currency contracts	80,240	(388,840)
Total investments	2,392,647,929	2,827,858,515
Invested securities lending collateral	68,224,108	94,246,253
Receivables		
City	3,379,725	633,223
Members	698,410	141,170
Interest and dividends	3,602,501	5,640,971
Investment sales proceeds	48,569,874	51,977,685
Other receivables	303,257	175,363
Total receivables	56,553,767	58,568,412
Cash and cash equivalents	135,937,288	77,072,359
Prepaid expenses	449,978	201,452
Capital assets, net	12,095,101	12,191,563
Total assets	2,665,908,171	3,070,138,554
Liabilities		
Notes payable	140,000,000	235,314,513
Payables		
Securities purchased	42,123,372	37,341,033
Securities lending obligations	68,224,108	94,246,253
Accounts payable and other accrued liabilities	3,641,855	3,655,746
Total liabilities	253,989,335	370,557,545
Net position		
Net investment in capital assets	12,095,101	12,191,563
Unrestricted	2,399,823,735	2,687,389,446
Net position held in trust - restricted for position benefits	$ 2,411,918,836	$ 2,699,581,009

DALLAS POLICE & FIRE PENSION SYSTEM
Combined Statementsof Changes in Fiduciary Net Position

	9 Months ended 09/30/2016 *(unaudited)*	9 Months ended 9/30/2015 *(unaudited)*
Contributions		
City	$ 91,788,067	$ 87,242,947
Members	$ 19,565,202	$ 19,173,577
Total contributions	111,353,269	106,416,524
Investment income		
Net appreciation in fair value of investments	125,098,846	(72,899,756)
Interest and dividends	43,182,412	54,996,622
Total gross investment income	168,281,258	(17,903,134)
less: investment expense	(7,219,278)	(8,032,123)
Net investment income	161,061,980	(25,935,257)
Securities lending income		
Securities lending income	537,591	566,039
Securities lending expense	(211,483)	(157,003)
Net securities lending income	326,108	409,036
Other income	136,662	88,688
Total additions	272,878,019	80,978,991
Deductions		
Benefits paid to members	547,615,141	200,221,585
Refunds to members	2,095,361	1,337,739
Interest expense	3,708,575	4,506,079
Professional and administrative expenses	7,121,115	6,155,520
Total deductions	560,540,192	212,220,923
Net decrease in net position	(287,662,173)	(131,241,932)
Net position		
Beginning of period	2,699,581,009	3,095,600,042
End of period	$ 2,411,918,836	$ 2,964,358,110

Change in Net Fiduciary Position

December 31, 2015 – September 30, 2016



DISCUSSION SHEET

ITEM #C6

Topic: **Plan amendment election update**

Discussion: Staff will discuss the status of the plan amendment election.

DISCUSSION SHEET

ITEM #C7

Topic: **Legislative update**

Attendees: Sen. John Whitmire, Gardner Pate, Neftali Partida, Crystal Ford – Locke Lord, LLP
Neal T. "Buddy" Jones, Clint Smith – Hillco Partners

Discussion: Representatives from Locke Lord, LLP, and HillCo Partners, the System's legislative consultants, will be present to discuss the 2016 state and federal election outcomes and look forward to 2017 legislative issues.

DISCUSSION SHEET

ITEM #C8

Topic: **Recognition of Former Trustee**

Discussion: The Chairman and Executive Director, on behalf of the Board, will present a plaque of appreciation to John Mays for his dedicated service on the Board of Trustees as Police Pensioner Trustee.

Mr. Mays served as Police Trustee from June 1981 through November 2000, and as Police Pensioner Trustee from June 2001 through October 2016.

Dallas Police & Fire Pension System

DISCUSSION SHEET

ITEM #C9

Topic: **Potential Investment Policy Statement changes**

Discussion: The current Investment Policy Statement (IPS), which was approved in May 2016, included asset class targets and ranges. Pursuant to the IPS, Investment Staff has authority to rebalance to the upper and lower bound of the target asset class range with the investment consultant's approval. The IPS also states:

> *The strategic asset allocation shall be monitored on an ongoing basis and rebalanced when the lower and upper bounds on the ranges are breached, understanding the timing of the rebalancing may be delayed depending on the liquidity of the asset class and costs of rebalancing, and otherwise at the discretion of Staff with concurrence of the Consultant.*

Several asset classes are at or near the lower bound of the target range, therefore rebalancing certain asset classes below the lower bound of the range will be required.

Staff Recommendation: Amend the IPS to allow Staff and the Consultant to rebalance outside the target ranges or terminate managers in situations where prior approval of the Board is not possible and it is the Executive Director's determination that such rebalancing is in DPFP's best interest.

INVESTMENT POLICY STATEMENT

As Amended through May 12, 2016

INVESTMENT POLICY STATEMENT

Adopted April 14, 2016
As Amended Through May 12, 2016

TABLE OF CONTENTS

INVESTMENT POLICY STATEMENT

Adopted April 14, 2016
As Amended through May 12, 2016

Section I. Introduction and Purpose

This policy statement shall guide investment of the assets of the Dallas Police and Fire Pension System (DPFP). This investment policy statement (IPS) is issued for the guidance of the Dallas Police and Fire Pension System Board of Trustees (Board), Investment Advisory Committee (IAC), Executive Director, Staff, Consultant(s), Custodian, and Investment Managers. This IPS is intended to set forth an appropriate set of goals and objectives for DPFP. It will define guidelines to assist fiduciaries and Staff in the supervision of the investments of DPFP. The investment program processes and procedures are defined in the various sections of the IPS by:

A. Stating in a written document DPFP's expectations, objectives and guidelines for the investment of assets;

B. Setting forth an investment structure for managing the portfolio. This structure includes assigning various asset classes, investment management styles, asset allocation and acceptable ranges that, in total, are expected to produce an appropriate level of overall diversification and total investment return over the investment time horizon;

C. Encouraging effective communications between the Board, IAC, Staff, Consultant(s), Investment Managers and Custodian(s);

D. Set forth policy that will consider various factors, including inflation, consumption, taxes, liquidity and administrative expenses, that will affect the portfolio's short and long term total expected returns and risk;

E. Establishing formal criteria to select, evaluate, monitor, compare, and attribute the performance of Investment Managers on a regular basis; and

F. Complying with all applicable fiduciary and due diligence requirements experienced investment professionals would utilize, and with all applicable laws, rules and regulations from various local, state, federal, and international political entities that can impact DPFP.

Section II. Design, Goals, and Objectives

Staff and the Consultant(s) are expected to deliver excess return beyond the Policy Benchmark[1] through manager selection and asset allocation adjustments. By achieving allocation and performance objectives consistently, the long term investment goals of DPFP are expected to be achieved.

A. Goals

1. Ensure funds are available to meet current and future obligations of the plan when due while earning a long-term, net of fees investment return greater than the actuarial return assumption.

2. To consistently rank in the top half of the public fund universe over the rolling three-year period, net of fees.

B. Objectives

1. To maintain a diversified asset allocation;

2. To provide for an appropriate risk adjusted rate of return;

3. To allow for both passive and active investment management;

4. To monitor quarterly manager performance;

5. To monitor monthly asset allocation changes;

6. To outperform the Policy Benchmark over rolling three year periods;

7. To control and monitor the costs of administering and managing the investments;

8. Establish guidelines and procedures for selecting, monitoring and replacing investment vehicles; and

9. Re-evaluate annually the policies defined in this IPS.

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[1] The Policy Benchmark represents the return of the investable and non-investable indices as defined in Appendix A, at the target allocation for each asset class.

Section III. Standards of Conduct and Fiduciary Responsibility

The following are standards of conduct for the Board, Investment Advisory Committee, Staff, Investment Managers, Consultant(s) and all investment related other service providers of DPFP:[2]

A. Place the interest of DPFP above personal interests;

B. Act with integrity, competence, diligence, respect, and in an ethical manner;

C. Use reasonable care, diligence, and exercise independent professional judgment when conducting analysis, making recommendations, and taking actions;

D. Promote the integrity of and uphold the rules governing DPFP;

E. Comply with all applicable laws, rules, and regulations of any government agency, regulatory organization, licensing agency, or professional association governing their professional activities;

F. Not assist or knowingly participate in any violation of governing laws, rules, or regulations;

G. Not accept gifts, benefits, or compensation that could be expected to compromise independence and objectivity;

H. Must not knowingly make any statement that misrepresents facts relating to investment analysis, recommendations, actions, or other professional activities;

I. Not engage in conduct involving dishonesty, fraud, deceit; and

J. Make full disclosure (annually) of all matters that could reasonably be expected to impair independence and objectivity with their respective duties to DPFP.

Section IV. Core Beliefs and Long Range Acknowledgements

This section outlines the core beliefs and long range acknowledgements for the overall governance of DPFP. These beliefs and acknowledgements will serve as guiding principles in the decision making and implementation of DPFP's investment mandate.

A. A well-defined governance structure with clearly delineated responsibilities is critical in achieving consistent, long term performance objectives.

B. The strategic asset allocation determines the risk reward profile of the portfolio and thus drives overall portfolio volatility.

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[2] *These are informed by the CFA Institute and the Center for Fiduciary Studies.*

Section IV. Core Beliefs and Long Range Acknowledgements (continued)

C. The opportunity for active manager outperformance (alpha) is not uniformly distributed across asset classes or Investment Managers' strategies.

D. Leverage may improve a risk / return profile when structured appropriately.

E. Portfolio cash flow and income will be used to rebalance the asset allocation.

Section V. Roles and Responsibilities

A. Board

The Board is made up of twelve (12) Trustees. The Board has a fiduciary role as the representative of DPFP. The Board recognizes its fiduciary duty and acknowledges its responsibility to ensure that the management of plan and DPFP's fund is in compliance with state and federal laws. Additionally, the Board:

1. Establishes investment objectives consistent with the needs of DPFP and prepares the IPS of DPFP;
2. Prudently diversifies, selects, and maintains a general investment strategy consistent with allocation ranges and investment guidelines including an agreed upon risk/return profile;
3. Approves strategic asset allocation targets and ranges;
4. Prudently hires, monitors, & terminates Consultant(s), Investment Managers and other vendors;
5. Reviews investment related expenses;
6. Approves Board travel related to investment monitoring, and in exceptional cases due diligence;
7. Approves any expansion or renewals of the DPFP leverage facility and reviews existing facility;
8. Adopts the IPS and annually reviews in the last quarter of each calendar year and revises as needed; and
9. Avoids prohibited transactions and conflicts of interest.

B. Investment Advisory Committee

1. <u>IAC Composition, Selection and Criteria:</u>

a. The IAC serves at the discretion of the Board of Trustees;

b. The IAC is composed of seven members and represented by three constituent groups: Dallas Police Department, Dallas Fire Department, and Dallas City Council.

c. Each constituent group will nominate at least one and up to two outside investment professionals to represent their group on the IAC;

d. One of the two representatives from each group may be filled by an existing Board member;

e. The Executive Director will nominate one additional outside investment professional to the IAC;

f. The Board will vote on and approve all IAC nominations;

g. To be eligible to serve on the IAC, an individual must live or work in any county that contains a portion of the City of Dallas;

h. An IAC meeting requires a quorum of at least four members, of which, at least two members must be outside investment professionals;

i. An IAC member will serve staggered terms of three years. It is contemplated that the outside investment members of the IAC will sign an agreement and be compensated as determined to be reasonable by the Board. Compensation and expenses are reimbursable under the Education and Travel Policies and Procedure. The IAC selects a chair and vice chair from its members, for a two-year term, to serve as liaison to the Board and to preside over IAC meetings;

j. Each outside investment professional member of the IAC will respond annually to a disclosure questionnaire, which the Board will review for any independence issues or potential conflicts of interest;

k. If the Executive Director learns that potential ground for removal of an IAC member exists, the Executive Director shall notify the Chair of the Board of the potential grounds for removal;

Section V. Roles and Responsibilities (continued)

B. Investment Advisory Committee (continued)

1. IAC Composition, Selection and Criteria: (continued)

   l. The Board of Trustees may elect to dismiss a member of IAC for any reason; and

   m. The IAC will meet at least quarterly at duly noticed public meetings.

2. IAC Roles and Responsibilities:

   a. The IAC will review all investment related items including, but not limited to, annual asset allocation updates and the hiring or termination of Investment Managers, Consultant(s), and Custodian;

   b. The IAC will vote on each investment related action item;

   c. The IAC chair or vice chair will update the Board with an abbreviated version of the facts and the IAC recommendation, or lack thereof, to the Board, which will accompany the Staff and Consultant recommendations;

   d. The IAC shall review Staff and Consultant recommendations on asset allocation targets and ranges at least annually, and provide an IAC recommendation to the Board; and

   e. Acts as fiduciaries to DPFP.

C. Staff

1. Executive Director

   a. The Executive Director is authorized to administer the operations and investment activities of DPFP under policy guidance from the Board;

   b. Manages the day to day operations of DPFP;

   c. Reports to Board when strategic asset allocation breaches target allocation bands;

   d. Oversees and reports to Board on investment and due diligence processes and procedures;

   e. Approves/declines all Staff travel related to all manager pre-hire & on-site due diligence;

Section V. Roles and Responsibilities (continued)

C. Staff (continued)

1. Executive Director (continued)

    f. Approval of Investment Staff recommendations for presentation to the IAC and Board; and

    g. Is not a fiduciary to DPFP.

2. Investment Staff

    The Staff is responsible for manager due diligence and recommendations, portfolio implementation consistent with the Board approved asset allocation, and will assess the activities of the Consultant(s). The Staff helps the Board to oversee Investment Managers, Consultant(s), Custodian(s), and vendors. Additionally, the Staff:

    a. Reports to Executive Director when portfolio asset classes exceed allowable strategic boundaries;

    b. Notifies Consultant(s) in writing of rebalancing needs and recommended implementation, so as to employ periodic cash flows to asset classes within target allocation ranges;

    c. Instructs Investment Managers to implement Consultant approved re-balance instructions;

    d. Submits to Executive Director for review, on annual basis, recommended asset allocation targets and ranges & oversees implementation of the approved asset allocation;

    e. Monitors and reports portfolio asset class balances;

    f. Assists in the preparation and annual review of IPS;

    g. Reviews Consultant(s)'s Investment Manager due diligence and recommendations;

    h. Prepares Staff Investment Manager recommendations, submits Staff and Consultant(s) recommendations to Executive Director for review;

    i. After Board approval of investment, Staff approves Investment Manager Strategy guidelines which will be outlined in the Investment Manager agreements, as applicable;

C. Staff (continued)

2. Investment Staff (continued)

   j. Monitors all investments, Investment Managers and vendors;

   k. Monitors adherence to quantitative due diligence criteria;

   l. Accounts for and reviews annually all external management fees and investment expenses;

   m. Reviews, every two years, the eligibility status of members of the IAC;

   n. Ensures all fiduciaries to DPFP are aware of their fiduciary obligations annually;[3] and

   o. Is not a fiduciary to DPFP.

D. Consultant(s)

The Consultant(s) should monitor qualitative and quantitative criteria related to Investment Managers and aggregate portfolio activity and performance. The Consultant(s), through its continuous and comprehensive responsibilities to DPFP should acknowledge in its contract, its fiduciary responsibility to DPFP. Additionally, the Consultant(s):

1. Recommends annually to IAC and Board strategic asset allocation targets, ranges, and benchmarks for asset classes;

2. Documents asset allocation recommendations with asset class performance expectations including standard deviation, expected return and correlations for each asset class used by DPFP;

3. Establishes and follows due diligence procedures for Investment Manager candidate searches;

4. Conducts screens and searches for Investment Manager candidates;

5. Assists in the selection process and monitoring of Investment Managers;[4]

6. Reviews and recommends Investment Managers and peer groups to IAC and Board;

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[3] *Verification of this may be through contract, agreement, or annual fiduciary acknowledgement letter.*
[4] *The specific screening criteria for investment managers can be found in Appendix B.*

Section V. Roles and Responsibilities (continued)

D. Consultant(s) (continued)

7. Documents and delivers to Staff written recommendations on Investment Manager new hire, hold and termination reviews;

8. Any new hire recommendation from the Consultant should include a recommended benchmark and an assessment of appropriate asset class and sub-allocation;

9. Approves and verifies in writing each of Staff's rebalancing recommendations and implementation;[5]

10. Reviews whether rebalancing was done consistent with best practices;

11. Monitors the diversification, quality, duration, and risk of holdings as applicable;

12. Assists Staff in negotiation of terms of vendor contracts;

13. Prepares quarterly investment reports, which include the information outlined in Appendix C; and

14. Acts as a fiduciary to DPFP.

E. Investment Managers

1. Public Investment Managers

    a. Acknowledge in writing acceptance of the objectives, guidelines, and standards of performance;

    b. Invest the assets of DPFP in accordance with its objectives, guidelines and standards;

    c. Exercise full discretionary authority as to all buy, hold and sell decisions for each security under management, subject to the guidelines as defined in this Statement;

    d. If managing a separate account, send trade confirmations to the Custodian;

    e. For separately managed accounts, deliver monthly report to Consultant(s)/Staff describing portfolio asset class weights, investment performance, security positions, and transactions;

[5] *Evidence of approval may be in electronic format*

E. Investment Managers (continued)

1. Public Investment Managers (continued)

    f. For commingled assets, this statement should show unit position and unit value;

    g. Adhere to best execution and valuation policies;

    h. Prices and fair market valuations will be obtained from a third party reporting service provider;

    i. Communicate to Executive Director any material changes at firm;

    j. Inform DPFP, as soon as practical, in writing of any breach of investment guidelines, ethic violations or violations of self-dealing;

    k. Communicate significant changes in the ownership, organizational structure, financial condition, or personnel staffing; and

    l. Acts as a fiduciary to DPFP.

2. Private Investment Managers

    a. Acknowledge in writing acceptance of the objectives, strategy guidelines, and standards of performance as evidenced in investment manager, operating or partnership agreement;

    b. Will ensure that financials statements undergo annual audits and that investments are reported at fair market value, as outlined in the Investment Management, Partnership or Operating Agreement(s);

    c. Communicate to Executive Director any material changes in the ownership or management of the firm, and or the stability of the organization;

    d. Inform DPFP, as soon as practical, in writing of any breach of investment guidelines, ethic violations or violations of self-dealing; and

    e. Acts as fiduciary to DPFP, unless specified and acknowledged by Board at time of hire.

Section V. Roles and Responsibilities (continued)

F. Custodian

1. Safekeep and hold all of DPFP's assets in the appropriate domestic accounts and provide highly secure storage of physical stock certificates and bonds such that there is no risk of loss due to theft, fire, or accident;[6]

2. Maintain separate accounts by legal registration;

3. Arrange for timely execution and settlement of Investment Manager securities transactions made for DPFP;

4. Provide for receipt and prompt crediting of all dividend, interest and principal payments received as a result of DPFP portfolio holdings or securities lending activities;

5. Monitor income receipts to ensure that income is received when due and institute investigative process to track and correct late or insufficient payments, including reimbursement for any interest lost due to tardiness or shortfall;

6. At the direction of the Staff, expeditiously transfer funds into and out of specified accounts.

Section VI. Authorized Asset Classes & Investments Guidelines

A. Asset Class Guidelines

1. Asset allocation is the primary driver of the volatility of portfolio return. To achieve the goals and objectives of DPFP, the fund's assets will be invested in the categories listed in Appendix A. The assets shall be diversified, in order to minimize the concentration risk, both by asset class and within an asset class.

2. The strategic asset allocation shall be monitored on an ongoing basis and rebalanced when the lower and upper bounds on the ranges are breached, understanding the timing of the rebalancing may be delayed depending the liquidity of the asset class and costs of rebalancing, and otherwise at the discretion of Staff with concurrence of the Consultant.

3. Securities lending is permissible for separately managed accounts and commingled vehicles.

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[6] *Electronic transfer records at the Depository Trust Company ("DTC'') are preferred.*

Section VI. Authorized Asset Classes & Investments Guidelines (continued)

B. Authorized Investments

1. Equities: Equity represents residual ownership of public and private companies after obligations to debt holders have been satisfied.

2. Fixed Income: Fixed-income instruments are securities or debt obligations issued by governments, government-related entities, structured debt facilities and public and private companies that contain contractual obligations from the issuer to make interest and/or principal repayments to investors over the duration of the negotiated term agreement.

3. Real Assets (Liquid and Illiquid): Liquid real assets are investments in tradable tangible/physical assets or related claims that may display a positive correlation to the rate of inflation. Illiquid real assets (natural resources and infrastructure) represent ownership claim to an actual, finite asset or property.

4. Global Asset Allocation: An investment strategy that actively invests in a variety of liquid assets including cash, equity, fixed income, credit, derivatives (interest rate, currency, index) and commodities.

5. Private Equity: A non-financial asset that is relatively illiquid and non-transparent. Private equity funds make investments directly into private companies.

6. Private Debt: Private debt funds typically provide capital to private sector borrowers.

7. Real Estate: Real estate represents investment in a range of properties which provide income and/or appreciation potential. Investments in real estate can be structured as public or private debt and/or equity, and can be in the U.S. or foreign countries.

8. Other Authorized Investments: Trade finance and reinsurance based strategies;

Section VII. Investment Due Diligence & Monitoring

A. Investment Due Diligence

Staff and Consultant(s) are responsible for recommending external Investment Managers to the IAC and Board for review for potential hiring. The following will be implemented:

1. Investment Manager candidate due diligence will be conducted by Staff & Consultant(s).

2. Due diligence criteria are defined in Appendix B.

A. Investment Due Diligence (continued)

3. Selected candidate(s) will be presented to the IAC.

4. IAC will communicate their recommendation, or lack thereof, on the candidate(s) for consideration and final approval by the Board.

B. Investment Monitoring

1. Staff and Consultant(s) are responsible for monitoring external public & private Investment Managers. Public and private Investment Managers will be monitored relative to peers and benchmarks monthly and quarterly, respectively. Additionally, each current manager is expected to satisfy the due diligence criteria outlined in Appendix B. If the following criteria are not met, an Investment Manager is to be considered an underperformer:

    a. Investment Managers' 3 year rolling returns in excess of peer group average;

    b. Investment Managers' 3 year rolling risk-adjusted returns in excess of peer group average;

    c. Investment Managers' qualitative requirements must be satisfied at all time periods, as determined by Staff or Consultant;

2. Based on the criteria outlined above, the Consultant will highlight underperforming Investment Managers in their quarterly report to Board. If an Investment Manager is considered an underperformer, Staff and Consultant will provide recommendations to IAC and Board regarding whether to "hold" or "sell".

Section VIII. Risk Management

The Staff will work within these policies in order to mitigate the risk of capital loss. By implementing these policies the Board has addressed:

A. Custodial Risk for both public and private holdings;[7]

B. Interest Rate Risk through fixed income duration and credit monitoring;[8]

C. Concentration and Credit Risk through asset allocation targets and ranges, rebalancing, and the monitoring of investment guidelines.

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[7] *Please review Custodian responsibilities in Section V.*
[8] *Please review Annual Review of IPS and Investment Manager strategy guidelines reviewed and approved by Staff.*

Section VIII. Risk Management (continued)

Through these policies, Staff has necessary monitoring criteria established for Custodian, Consultant(s) and Investment Managers, such that DPFP has in place policies that will mitigate interest rate, custody, concentration and credit risks.

APPROVED on May 12, 2015 by the Board of Trustees of the Dallas Police and Fire Pension System.

Samuel L. Friar

Samuel L. Friar
Chairman

Attested:

Kelly Gottschalk
Executive Director

SECTION IX.

APPENDICES

Appendix A

STRATEGIC ASSET ALLOCATION TARGETS & RANGES

Asset Class	Policy Benchmark	Target	Range
Cash	90-day T Bills	**2.0%**	**0% – 5%**
Plan Level Leverage	(LIBOR + 300)	**0%**	**0% - 15%**
Equity		**30.0%**	**20% – 40%**
Global Equity	MSCI AC World (gross)	20.0%	10% – 23%
EM Equity	MSCI EM Equity (gross)	5.0%	0% – 8%
Private Equity	R3000 +3% (Rolling 3 Mo.)	5.0%	4% – 15%
Fixed Income		**33.0%**	**15% – 38%**
Short-Term Core Bonds	Barclays UST 1-3 Year	2.0%	0% – 5%
Global Bonds	Barclays Global Aggregate	3.0%	0% – 6%
High Yield	Barclays Global HY	5.0%	2% – 8%
Bank Loans	S&P Leveraged Loan Index	6.0%	3% – 9%
Structured Credit & Absolute Return	HFRI RV: FI (50/50-ABS/Corp)	6.0%	0% – 9%
EMD (50/50)	50% JPM EMBI/50% JPM GBI-EM	6.0%	0% – 9%
Private Debt	Barclays Global HY + 2% (Rolling 3 Mo.)	5.0%	2% – 7%
Real Assets		**25.0%**	**20% – 45%**
Natural Resources	S&P Global Nat Res (Rolling 3 Mo.)	5.0%	3% – 10%
Infrastructure	S&P Global Infra (Rolling 3 Mo.)	5.0%	3% – 10%
Real Estate	NCREIF	12.0%	10% – 25%
Liquid Real Assets	CPI + 5.00%	3.0%	0% – 6%
Asset Allocation		**10.0%**	**5% – 15%**
Risk Parity	60% MSCI ACWI/40% Barclays Global Aggregate	5.0%	2% – 8%
GTAA	60% MSCI ACWI/40% Barclays Global Aggregate	3.0%	0% – 6%
Absolute Return	HFRX Abs Ret Index	2.0%	0% – 5%
	TOTAL	100.0%	

Appendix B

The public market Investment Manager screening criteria include:

1. Lead portfolio manager tenure/experience at least 5 years.
2. Firm level assets under management: 75 million or more under management.
3. Investment style should consistently match what is approved and outlined in the Investment Manager's guidelines, and will be compared and analyzed against peers/sub-asset class category.
4. Sharpe ratio generally would exceed .3, which may not be possible following a prolonged bear market in that respective market, and must exceed 50% of its peer group over a three year rolling period.
5. Three year rolling total return, on a net of fee basis, must exceed 50% of its peer group.
6. On site due diligence meeting is recommended.
7. Fiduciary acceptance and acknowledgement.

The private Investment Manager screening will focus on the key areas of:

1. Alignment of Interests: management fees and expenses, carry/waterfall, term of fund, General Partner commitment.
2. Governance: team, investment strategy, fiduciary duty, Limited Partner Advisory Committee responsibilities and makeup, changes of the fund.
3. Transparency: risk management, financial information, disclosure related to the GP, management and other fees.
4. Track Record: the firm or lead portfolio manager should have a track record of at least 5 years.
5. Performance: a majority of previous funds should rank in the top 50% of their vintage year and strategy fund universe.

The hedge-fund Investment Manager screening criteria include:

1. Lead portfolio manager tenure/experience at least 5 years.
2. Utilization of independent third-party administrator.
3. Sharpe ratio should exceed .5 and must exceed 50% of its peer group over a three year rolling period.
4. Three year rolling total return must exceed 50% of its peer group.
5. A well-defined and documented risk management process.
6. Leverage terms should be appropriate to strategy.
7. Liquidity of assets should match liquidity of fund.
8. Redemption terms consistent with peers.
9. Expected return compensates for illiquidity.

If any of the above due diligence criteria are not met, the Staff and Consultant will disclose this in their recommendations to the IAC and Board, along with an explanation of why the investment is still appropriate.

Appendix C

Investment Consultant Reporting Requirements

The investment consultant is required to provide the Board with quarterly investment information for portfolio monitoring purposes. Generally these are as follows:

Quarterly (due in advance of the Investment Advisory Committee meeting)

1. A review of the current investment market environment.
2. DPFP's actual asset allocation relative to its target asset allocation as defined in Appendix A.
3. DPFP's return relative to its Policy Benchmark return as defined in Appendix A and other public pension funds.
4. DPFP's risk adjusted returns relative to the policy and other public pension funds.
5. Asset class performance relative to the benchmarks as defined in Appendix A.
6. Individual Investment Manager returns relative to their stated benchmark.
7. Report will specifically acknowledge any underperforming Investment Managers based on the criteria outlined in Section VII of the Investment Policy Statement.
8. Any reportable events affecting any of DPFP's Investment Managers.
9. Private Markets reports which covers Private Debt, Private Equity, Infrastructure, Real Assets and Real Estate.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C10

Topic: **Discussion and approval of the 2017 Budget**

Discussion: Attached is the revised budget proposal for Calendar Year 2017.

The budget has been prepared in total for both the Combined Pension Plan and the Supplemental Plan and was presented in the Regular Board meeting on October 13, 2016. Total expenses are allocated to the Supplemental Plan based on unitization as reported by JPMorgan.

At the October Board meeting, the Board directed staff to make further budget reductions to be presented to the Board in November.

The revised proposed budget, net of expenses allocated to the Supplemental Plan, totals $9.4M which is a decrease of 19.3% compared to the prior year budget and a decrease of 6.5% compared to the original 2017 budget proposal presented in October.

Proposed expense items, as revised, which are projected to vary from the prior year budget by more than 5% and $10,000 are explained in the comments accompanying the proposed revised budget.

Staff Recommendation: **Approve** the Calendar Year 2017 budget.

The originally proposed budget was presented to the Board for review at the October 13th Board meeting. The Board directed staff to review for further reductions and present a revised budget for review at the November 10th Board meeting. Member comments will also be received at the November 10th Board meeting.

BUDGET
CALENDAR YEAR 2017

	Description	2016 Budget***	2016 Projected Actual**	2017 Proposed Budget	$ Change vs Prior Yr Budget	% Change vs Prior Yr Budget
1	Salaries and benefits	4,248,074	3,954,000	3,589,257	(658,817)	-15.5%
2	Employment expenses	3,585	8,275	3,009	(576)	-16.1%
3	Memberships and dues	19,107	17,000	17,600	(1,507)	-7.9%
4	Staff meetings	1,400	762	1,000	(400)	-28.6%
5	Employee service recognition	2,210	2,890	1,960	(250)	-11.3%
6	Member educational programs	19,450	10,649	2,500	(16,950)	-87.1%
7	Member outreach programs	750	540	-	(750)	-100.0%
8	Disability medical evaluations	15,000	11,880	12,500	(2,500)	-16.7%
9	Elections	40,000	40,000	10,000	(30,000)	n/a
10	Board meetings	30,580	25,589	13,360	(17,220)	-56.3%
11	Conference registration/materials - Board	21,600	37,000	51,615	30,015	139.0%
12	Travel - Board	208,400	50,000	153,335	(55,065)	-26.4%
13	Conference/training registration/materials - Staff	52,320	20,000	32,450	(19,870)	-38.0%
14	Travel - Staff	131,700	40,000	60,550	(71,150)	-54.0%
15	Building expenses, incl capitalizable fixed assets	700,967	590,000	599,266	(101,701)	-14.5%
16	Office supplies	34,850	30,624	31,800	(3,050)	-8.8%
17	Leased equipment	25,000	25,999	20,500	(4,500)	-18.0%
18	Postage	30,400	26,000	27,700	(2,700)	-8.9%
19	Printing	47,825	7,000	5,635	(42,190)	-88.2%
20	Repairs and maintenance	60,450	70,000	97,508	37,058	61.3%
21	Subscriptions	1,726	2,430	2,510	784	45.4%
22	Records storage	960	1,080	1,200	240	25.0%
23	Liability insurance	326,378	356,000	372,000	45,622	14.0%
24	Bank/security custodian services	415,040	317,500	328,600	(86,440)	-20.8%
25	Actuarial services	600,000	650,000	275,000	(325,000)	-54.2%
26	Accounting services	59,000	59,000	59,000	-	0.0%
27	Independent audit	165,000	142,500	142,500	(22,500)	-13.6%
28	Investment consultant and reporting	675,000	675,000	575,000	(100,000)	-14.8%
29	Real estate consultant	200,000	40,110	-	(200,000)	-100.0%
30	Legal fees	2,500,000	2,500,000	2,014,800	(485,200)	-19.4%
31	Legislative consultants	260,000	247,000	248,000	(12,000)	-4.6%
32	Public relations	100,000	-	50,000	(50,000)	-50.0%
33	Miscellaneous professional services	52,250	59,200	136,775	84,525	161.8%
34	Communications (phone/internet)	76,800	68,906	64,312	(12,488)	-16.3%
35	Business continuity	48,700	31,500	13,500	(35,200)	-72.3%
36	Network security	50,000	50,000	35,000	(15,000)	-30.0%
37	Pension administration software & WMS	306,000	300,000	271,000	(35,000)	-11.4%
38	Information technology projects	145,000	145,000	20,000	(125,000)	-86.2%
39	IT subscriptions/services/licenses	59,125	19,359	122,950	63,825	107.9%
40	IT software/hardware	43,400	39,000	39,800	(3,600)	-8.3%
41	Contingency reserve	-	370	-	-	n/a
	Gross Total	11,778,047	10,672,161	9,503,492	(2,274,555)	-19.3%
	Less: Allocation to Supplemental Plan Budget*	78,406	70,436	63,265	(15,142)	-19.3%
	Total Regular Plan Budget	**11,699,640**	**10,601,724**	**9,440,227**	**(2,259,413)**	**-19.3%**

** Unitization split to Supplemental is based on unitization as of 8/31/16 of .67%*

*** Projected based on 8/31/16 YTD annualized*

**** 2016 Budget was amended March 10, 2016 related to Travel and Conference expenses; June 9, 2016 related to Legal expenses and Oct 13, 2016 related to Legal, Actuarial & Elections.*

Budget Changes (>5% and $10K)

	Item	2016 Budget	2016 Projected Actual**	2017 Proposed Budget	$ Change vs Prior Yr Budget	% Change vs Prior Yr Budget	Explanation
	INCREASES:						
1	Miscellaneous professional services	52,250	59,200	136,775	84,525	161.8%	Leasing costs related to 3rd flr; slight offset from reduction in Marco proxy voting fees
2	IT subscriptions/services/licenses	59,125	19,359	122,950	63,825	107.9%	Addition of business continuity (vCloud) license due to elimination of physical hotsite (see corresponding decrease in Business continuity exp)
3	Liability insurance	326,378	356,000	372,000	45,622	14.0%	Increased premiums on fiduciary policy due to '14 Plan amendment litigation
4	Repairs and maintenance	60,450	70,000	97,508	37,058	61.3%	Reclassification of certain exp from Building to R&M (see corresponding decrease in Building exp); increased cost of IT repairs
5	Conference registration/materials - Board	21,600	37,000	51,615	30,015	139.0%	Refined projection of registration costs; NCPERS Leg was cancelled & removed from budget in '16; cost of professional ed has increased
	REDUCTIONS:						
6	Salaries and benefits	4,248,074	3,954,000	3,589,257	(658,817)	-15.5%	Reductions in headcount throughout '16; reduced employer contributions to health benefits; slightly offset by increased medical insurance premiums
7	Legal fees	2,500,000	2,500,000	2,014,800	(485,200)	-19.4%	Anticipated reduction in legal compared to 2016 activity
8	Actuarial services	600,000	650,000	275,000	(325,000)	-54.2%	2016 was unusually high due to Plan amendment preparation
9	Real estate consultant	200,000	40,110	-	(200,000)	-100.0%	No longer engage separate RE consultant
10	Information technology projects	145,000	145,000	20,000	(125,000)	-86.2%	Reduction in planned projects
11	Building expenses, incl capitalizable fixed assets	700,967	590,000	599,266	(101,701)	-14.5%	Savings identified by new property manager; reduced security costs; reduced janitorial costs; reclassification of building related R&M to R&M; offset by anticipated tenant improvements (3rd flr) and increased property taxes; Expected to be offset by $175K in rental income
12	Investment consultant and reporting	675,000	675,000	575,000	(100,000)	-14.8%	Replacement of Maples reporting
13	Bank/security custodian services	415,040	317,500	328,600	(86,440)	-20.8%	Reduction in number of assets and accounts held in custody
14	Travel - Staff	131,700	40,000	60,550	(71,150)	-54.0%	Reduction in due diligence related travel and training related travel
15	Travel - Board	208,400	50,000	153,335	(55,065)	-26.4%	Reduction in due diligence related travel and education related travel
16	Public relations	100,000	-	50,000	(50,000)	-50.0%	Reduction in expected usage
17	Printing	47,825	7,000	5,635	(42,190)	-88.2%	Elimination of printed newsletters; reduction of printed materials used in Benefits counseling sessions/classes
18	Business continuity	48,700	31,500	13,500	(35,200)	-72.3%	Virtualization of hotsite; reduction in certain service fees
19	Pension administration software & WMS	306,000	300,000	271,000	(35,000)	-11.4%	Modifications related to Plan amendment are primarily expected to be incurred in 2016
20	Elections	40,000	40,000	10,000	(30,000)	-75.0%	Two trustee elections vs one Plan amendment election
21	Independent audit	165,000	142,500	142,500	(22,500)	-13.6%	Based on actual audit fees from 2016
22	Conference/training registration/materials - Staff	52,320	20,000	32,450	(19,870)	-38.0%	Reduction of staff training
23	Board meetings	30,580	25,589	13,360	(17,220)	-56.3%	Reduction in cost for meals for meetings
24	Member educational programs	19,450	10,649	2,500	(16,950)	-87.1%	Reduction in cost for meals for meetings
25	Network security	50,000	50,000	35,000	(15,000)	-30.0%	Lack of need for assessment in 2017
26	Communications (phone/internet)	76,800	68,906	64,312	(12,488)	-16.3%	Elimination of payment for staff cell phones and tablets (equipment and service)

*** Projected based on 8/31/16 YTD annualized*

2017 BUDGET COMPARISON (ORIGINAL vs. REVISED)

	Description	2016 Final Budget	2017 Originally Proposed Budget	2017 Revised Proposed Budget	$ Change vs 2016 Budget	% Change vs 2016 Budget	$ Change vs Original Budget	% Change vs Original Budget	Explanation (vs Original Budget)
1	Salaries and benefits	4,248,074	3,857,513	3,589,257	(658,817)	-15.5%	(268,256)	-7.0%	Elimination of 4 positions, somewhat offset by increase in IT outsourcing cost in IT subscriptions /service/licenses
2	Employment expenses	3,585	3,009	3,009	(576)	-16.1%	-	0.0%	
3	Memberships and dues	19,107	17,600	17,600	(1,507)	-7.9%	-	0.0%	
4	Staff meetings	1,400	1,000	1,000	(400)	-28.6%	-	0.0%	
5	Employee service recognition	2,210	3,010	1,960	(250)	-11.3%	(1,050)	-34.9%	
6	Member educational programs	19,450	9,600	2,500	(16,950)	-87.1%	(7,100)	-74.0%	
7	Member outreach programs	750	720	-	(750)	-100.0%	(720)	-100.0%	
8	Disability medical evaluations	15,000	12,500	12,500	(2,500)	-16.7%	-	0.0%	
9	Elections	40,000	10,000	10,000	(30,000)	-75.0%	-	0.0%	
10	Board meetings	30,580	22,960	13,360	(17,220)	-56.3%	(9,600)	-41.8%	Reduction in meals for meetings
11	Conference registration/materials - Board	21,600	51,615	51,615	30,015	139.0%	-	0.0%	
12	Travel - Board	208,400	217,835	153,335	(55,065)	-26.4%	(64,500)	-29.6%	Due diligence (25K); individual Trustee budgets reduced to 8K (Chair) and 6K; Workshop
13	Conference/training registration/materials - Staff	52,320	43,700	32,450	(19,870)	-38.0%	(11,250)	-25.7%	Reduction in investments-related course reimbursement
14	Travel - Staff	131,700	74,050	60,550	(71,150)	-54.0%	(13,500)	-18.2%	Workshop
15	Building expenses, incl capitalizable fixed assets	700,967	610,966	599,266	(101,701)	-14.5%	(11,700)	-1.9%	Alteration of security
16	Office supplies	34,850	31,800	31,800	(3,050)	-8.8%	-	0.0%	
17	Leased equipment	25,000	20,500	20,500	(4,500)	-18.0%	-	0.0%	
18	Postage	30,400	27,700	27,700	(2,700)	-8.9%	-	0.0%	
19	Printing	47,825	6,435	5,635	(42,190)	-88.2%	(800)	-12.4%	
20	Repairs and maintenance	60,450	97,508	97,508	37,058	61.3%	-	0.0%	
21	Subscriptions	1,726	2,800	2,510	784	45.4%	(290)	-10.4%	
22	Records storage	960	1,200	1,200	240	25.0%	-	0.0%	
23	Liability insurance	326,378	372,000	372,000	45,622	14.0%	-	0.0%	
24	Bank/security custodian services	415,040	328,600	328,600	(86,440)	-20.8%	-	0.0%	
25	Actuarial services	600,000	275,000	275,000	(325,000)	-54.2%	-	0.0%	
26	Accounting services	59,000	59,000	59,000	-	0.0%	-	0.0%	
27	Independent audit	165,000	142,500	142,500	(22,500)	-13.6%	-	0.0%	
28	Investment consultant and reporting	675,000	700,000	575,000	(100,000)	-14.8%	(125,000)	-17.9%	Replacement of Maples reporting
29	Real estate consultant	200,000	-	-	(200,000)	-100.0%	-	0.0%	
30	Legal fees	2,500,000	2,014,800	2,014,800	(485,200)	-19.4%	-	0.0%	
31	Legislative consultants	260,000	248,000	248,000	(12,000)	-4.6%	-	0.0%	
32	Public relations	100,000	100,000	50,000	(50,000)	-50.0%	(50,000)	-50.0%	Reduction in anticipated usage
33	Miscellaneous professional services	52,250	143,350	136,775	84,525	161.8%	(6,575)	-4.6%	Marco proxy voting service 25% fee reduction
34	Communications (phone/internet)	76,800	64,312	64,312	(12,488)	-16.3%	-	0.0%	
35	Business continuity	48,700	20,000	13,500	(35,200)	-72.3%	(6,500)	-32.5%	Reduction in Barracuda fees
36	Network security	50,000	37,000	35,000	(15,000)	-30.0%	(2,000)	-5.4%	
37	Pension administration software & WMS	306,000	281,000	271,000	(35,000)	-11.4%	(10,000)	-3.6%	Elimination of planned projects
38	Information technology projects	145,000	140,000	20,000	(125,000)	-86.2%	(120,000)	-85.7%	Elimination of planned projects
39	IT subscriptions/services/licenses	59,125	77,950	122,950	63,825	107.9%	45,000	57.7%	Outsourcing of IT functions in lieu of headcount reduction
40	IT software/hardware	43,400	39,800	39,800	(3,600)	-8.3%	-	0.0%	
41	Contingency reserve	0	-	-	-	0.0%	-	0.0%	
	Gross Total	**11,778,047**	10,167,333	9,503,492	(2,274,555)	-19.3%	(663,841)	-6.5%	
	Less: Allocation to Supplemental Plan Budget*	78,406	67,684	63,265	(15,142)	-19.3%	(4,419)	-6.5%	
	Total Regular Plan Budget	**11,699,640**	**10,099,649**	**9,440,227**	**-2,259,413**	**-19.3%**	**(659,422)**	**-6.5%**	

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C11

Topic: **2017 Board meetings**

Discussion: Staff will present a proposed 2017 Board meeting calendar.

Staff Recommendation: **Approve** the 2017 Board meeting calendar, subject to the final approval of the Executive Director.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C12

Topic: **Board Members' reports on meetings, seminars and/or conferences attended**

Discussion:

a. **Conference:** **Society of Pension Professionals** JB
Dates: October 18, 2016
Location: Dallas, TX

b. **Conference:** **NCPERS Accredited Fiduciary Program Modules 3 & 4** SF, KH
Dates: October 22-23, 2016
Location: Las Vegas, NV

c. **Conference:** **NCPERS Public Safety Conference** SF, KH
Dates: October 23-26, 2016
Location: Las Vegas, NV

d. **Conference:** **Texas for Secure Retirement Symposium** JB
Dates: October 26, 2016
Location: Austin, TX

e. **Conference:** **Society of Pension Professional Annual Summit** JB
Dates: October 31, 2016
Location: Irving, TX

DISCUSSION SHEET

ITEM #C12
(continued)

f.	**Conference:**	**TEXPERS Basic Trustee Training Class**	JG, PK, SG
	Dates:	November 1, 2016	
	Location:	Irving, TX	
g.	**Conference:**	**PRB meeting**	KG, SF, JM
	Dates:	November 3, 2016	
	Location:	Austin, TX	

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C13

Topic: **Ad hoc committee report**

Discussion: An update may be provided.

DISCUSSION SHEET

ITEM #C14

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

Discussion: Counsel will brief the Board on these issues.

DISCUSSION SHEET

ITEM #C15

Topic: **NEPC: Second Quarter 2016 Private Markets & Real Assets Review**

Attendees: Michael Yang, Research Consultant

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

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.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D2

Topic: **Executive Director's report**

- **a.** DROP update
- **b.** Future Education and Business Related Travel
- **c.** Future Investment Related Travel
- **d.** Associations' newsletters
    - TEXPERS Outlook (November 2016)

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

Future Education and Business Related Travel
Regular Board Meeting – November 10, 2016

Regular Board Meeting December 8, 2016

1. **Conference:** **Society of Pension Professionals**
   Dates: December 20, 2016
   Location: Dallas, TX
   Est. Cost: $250.00 Per Person Annually

2. **Conference:** **PRB: MET Online Core Training: Benefits Administration**
   Dates: Anytime on line
   Location: http://www.prb.state.tx.us/

3. **Conference:** **PRB: MET Online Core Training: Risk Management**
   Dates: Anytime on line
   Location: http://www.prb.state.tx.us/

4. **Conference:** **PRB: MET Online Core Training: Ethics**
   Dates: Anytime on line
   Location: http://www.prb.state.tx.us/

5. **Conference:** **PRB: MET Online Core Training: Governance**
   Dates: Anytime on line
   Location: http://www.prb.state.tx.us/

* New/No one has signed up

2017

6. **Conference:** **Opal: Public Funds Summit**
   Dates: January 9-11, 2017
   Location: Scottsdale, AZ
   Est. Cost: TBD

7. **Conference:** **NEPC Annual Public Funds Workshop**
   Dates: January 23-24, 2017
   Location: Tempe, AZ
   Est. Cost: TBD

8. **Conference:** **NCPERS Legislative Conference**
   Dates: January 29-31, 2017
   Location: Washington, DC
   Est. Cost: TBD

9. **Conference:** **NAPO Annual Pension & Benefits Seminar**
   Dates: February 26-28, 2017
   Location: Orlando, FL
   Est. Cost: TBD

10. **Conference:** **TEXPERS Basic Trustee Training Class**
    Dates: April 8, 2017
    Location: Austin, TX
    Est. Cost: TBD

* New/No one has signed up

11.	**Conference:**	**TEXPERS 28th Annual Conference**
	Dates:	April 9 – 12, 2017
	Location:	Austin, TX
	Est. Cost:	TBD
12.	**Conference:**	**Wharton: Portfolio Concepts and Management**
	Dates:	May 1-4, 2017
	Location:	Philadelphia, PA
	Est. Cost:	$6,500
13.	**Conference:**	**NCPERS Accredited Fiduciary Program (Modules 1&2 and 3&4)**
	Dates:	May 20 – 21, 2017
	Location:	Hollywood, FL
	Est. Cost:	TBD
14.	**Conference:**	**NCPERS Trustee Educational Seminar (TEDS)**
	Dates:	May 20 – 21, 2017
	Location:	Hollywood, FL
	Est. Cost:	TBD
15.	**Conference:**	**NCPERS 2017 Annual Conference & Exhibition**
	Dates:	May 21 – 24, 2017
	Location:	Hollywood, FL
	Est. Cost:	TBD
16.	**Conference:**	**TEXPERS 2017 Summer Educational Forum**
	Dates:	August 13 – 16, 2017
	Location:	San Antonio, TX
	Est. Cost:	TBD

* New/No one has signed up

17. Conference: **Wharton: Refresher Workshop in Core Investment Concepts**
Dates: September 24, 2017
Location: Philadelphia, PA
Est. Cost: $1,000

18. Conference: **Wharton: Advanced Investments Management**
Dates: September 25-28, 2017
Location: Philadelphia, PA
Est. Cost: $6,000

19. Conference: **NCPERS Public Safety Employees' Pension & Benefits Conference**
Dates: October 29 – November 1, 2017
Location: San Antonio, TX
Est. Cost: TBD

* New/No one has signed up

Texas Association of Public Employee Retirement Systems

TEXPERS OUTLOOK

November 2016

ISSUES IMPACTING PUBLIC PENSION FUNDS

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Houston Pension Funds Agree to Mayor's Proposal to Cut Benefits, Issue Bonds

Houston's three pension systems for city employees are backing a reform plan proposed by Mayor Sylvester Turner to reduce benefits and issue pension obligation bonds in an attempt to reduce total liabilities by an estimated $3.5 billion.

The plan, which the mayor hopes to present to the Texas Legislature next year where it faces an uncertain outcome, aims to fully fund the city's pension for police officers, firefighters and municipal workers.

The plan calls for the adoption of a 30-year closed amortization schedule to pay off by 2046 the $7.7 billion in unfunded liabilities across the pension funds, which include the $3.8 billion Houston Firefighters' Relief and Retirement Fund, the $4.6 billion Houston Police Officers' Pension System and the $2.5 billion Houston Municipal Employees Pension System.

By a 7-2 vote on Oct. 24, the Houston Firefighters' Relief and Retirement Fund's board joined the police and municipal pension boards in agreeing to a complex deal that requires beneficiaries to give up some benefits in exchange for long-term certainty in their retirement funds.

The mayor's proposal includes benefit reductions in the three pension funds that would reduce total liabilities by $2.5 billion, and the city would also issue $1 billion in pension obligation bonds, $750 million of which would be contributed to the police officers' pension system and $250 million of which would be issued to the municipal employees' pension plan.

Even though they agreed to it, fire fund officials sounded wary of the agreement. A statement released by the fire fund after the vote characterized the agreement as a "non-binding framework," and several media outlets reported that no trustees elected by active

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Houston Fire continued from p. 1

or retired firefighters were in attendance at Turner's press conference about the deal.

The city's firefighters had never before agreed to benefit cuts, according to The Houston Chronicle, whereas the police and municipal boards did so in 2004 and 2007, after benefit increases approved in 2001 led pension costs to spike.

The 2001 changes created a crisis that has burdened the city budget and has only worsened since, in large part because the city has failed to keep up with its annual contributions to the funds.

The benefits changes from the pension systems will immediately reduce the funds' unfunded liability to $5.2 billion, a 33% reduction, Turner said in a statement posted on his website.

"We will couple this with $1 billion in pension obligation bonds (POB) to further reduce the unfunded liability," Turner added. "Yes, we are trading one form of debt for another, but at a lower interest rate."

Also, in keeping with a national trend, the funds are lowering the assumed rate of return on their investments to 7%, which Turner characterized as "more realistic."

The agreement also calls for limiting the amount to be spent each year for pension benefits. If anticipated costs rise above this limit, the city and the pension systems must return to the table to make adjustments to bring costs back in line.

On the Web at: http://www.houstonchronicle.com/news/politics/houston/article/Firefighters-OK-pension-plan-but-still-wary-10201608.php, https://www.hfrrf.org/default.aspx, http://www.houstontx.gov/pensions/letter-from-mayor.html, http://www.pionline.com/article/20161020/ONLINE/161029982/houston-mayor-announces-plan-to-cut-pension-benefits-issue-bonds, http://www.pionline.com/article/20161024/ONLINE/161029947/houston-firefighters-pension-fund-board-oks-mayors-plan-to-cut-benefits-issue-bonds.

GASB Proposes Implementation Guide for OPEB Standards

The Governmental Accounting Standards Board (GASB) has released a proposed implementation guide for its Statement No. 74, which sets standards for "Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans."

The 129-page proposed guide, which applies to the financial statements of all state and local governments, is presented in a question and answer format and is intended to clarify, explain or elaborate on the requirements of GASB 74.

In June 2015, GASB approved the standards, which cover Other Postemployment Benefits (OPEB) plans that administer benefits on behalf of governments through trusts that meet the GASB's specified criteria.

GASB 74 replaces GASB 43 and requires more extensive note disclosures and required supplementary information (RSI) for both defined benefit (DB) and defined contribution (DC) OPEB plans. The provisions of GASB 74 became effective for plan fiscal years beginning after June 15, 2016.

Comments on the proposed implementation guide are due by Dec. 19.

On the Web at: http://www.gasb.org/jsp/GASB/Document_C/GASBDocumentPage?cid=1176168530441&acceptedDisclaimer=true.

Summary of Federal Tax Laws Applicable to Public Retirement Systems Updated

Attorney Carol V. Calhoun of Venable LLP (formerly of the Calhoun Law Group) has updated her checklist of federal tax laws that are applicable to public retirement systems.

While the checklist is beneficial to public plan sponsors, Calhoun cautions that it should be viewed as a general summary and should not be a substitute for research on specific issues.

The checklist covers the Internal Revenue Code (IRC) qualification requirements applicable to governmental plans, other than plans described in IRC § 403(b) and 457(b). It also includes selected IRC requirements not related to retirement plan qualification.

Links are provided to each of the applicable IRC sections and other considerations are included related to recent legislative and administrative developments.

On the Web at: http://benefitsattorney.com/charts/appfa/.

Contrary to Alarmists, State Pension and OPEB Costs Are Manageable for Most Governments

The total costs for long-term state and local government commitments – including pensions, other post-employment benefits (OPEBs) and debt service – appear to be under control in many jurisdictions.

However, for a handful of states, counties and cities, these costs are an extraordinarily high percentage of their own-source revenue. These jurisdictions have only unpalatable options.

The findings come from a report by the Center for Retirement Research at Boston College that provides a comprehensive accounting of state and local government liabilities for pensions and OPEBs and the fiscal burden that they pose on states, counties and cities.

"The costs of state pension plans are much in the news," the researchers state. "Generally, people lump together these unfunded liabilities and make alarming claims that all state plans are about to go bankrupt. The evidence, though, suggests otherwise. On the other hand, looking just at pension plans and just at states doesn't give the full picture of costs facing states and localities."

The paper attempts to describe what the worst-off states, counties and cities can do to improve their financial situations. Four options exist:

1. One is to pray for higher returns. Unfortunately returns would have to be consistently in the 10%-15% range over the next 30 years to solve the problem – an unlikely outcome given today's financial markets.
2. A second option is to raise taxes to meet the required commitments. Unfortunately, many of the states with the greatest burden already have relatively high taxes.
3. A third option is to cut other spending by 10% to 20%.
4. A final option is to raise employee contributions even beyond what they are already contributing to their plans.

"Clearly, those governments in the worst shape face an enormous challenge," stated the report, "Will Pensions and OPEBs Break State and Local Budgets?" It is available for download at: http://crr.bc.edu/briefs/will-pensions-and-opebs-break-state-and-local-budgets/.

Meanwhile, the Center for Retirement Research issued a separate report providing a comprehensive accounting of pension and OPEB liabilities for state and local governments and the fiscal burden that they pose.

The analysis included plans serving more than 800 entities: 50 states, 178 counties, 173 major cities, and 415 school districts related to the sample of cities and counties.

The cost analysis separately calculates pension and OPEB costs as a percentage of own-source revenue for states, cities and counties. It then combines pension and OPEB costs to obtain the overall burden of these programs.

On the Web: http://crr.bc.edu/working-papers/an-overview-of-the-pensionopeb-landscape/.

Save the Date!

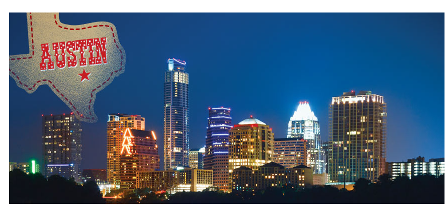
28th Annual Conference

April 9 - April 12, 2017

Hilton Austin, Austin, Texas

Registration Opening in November

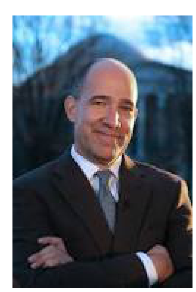
Visit the conference website at www.texpers.org for a preliminary schedule



TEXPERS Keynote Speaker

Matthew Dowd, Chief Political Analyst, ABC News

America and Texas at a Time of Great Disruption



Annual Required Contributions Key to Public Pension Funds' Success

An examination of three of the most successful public pension systems in the country offers a roadmap to success for other pension systems looking to provide a secure retirement for their public employees, according to new research.

Adequately funding pensions each year is the single most important thing governments can do to properly manage their pensions and ensure a secure retirement for public employees, according to "Public Pensions Work – And These Three Systems Prove It," by Tyler Bond of the National Public Pension Coalition. No investments in alternative assets or cuts in benefits can make up for poor funding practices.

While each pension fund studied is unique, their common commitment to sound funding practices and responsible management ensures that the retirees of these systems can enjoy the dignified retirement they deserve.

Even though detractors of public pension funds are making headlines, the fact is that most public pension systems are reasonably well-funded and provide an adequate retirement benefit to teachers, firefighters, nurses, and other public employees, according to the report.

The report focuses on three exemplary systems:

- The District of Columbia Retirement Board manages the District of Columbia Police Officers and Firefighters' Retirement Plan, a well-funded pension system with a current funding ratio of 107.3%. The DC government pays its full annual required contribution to the pension fund each year.
- The Illinois Municipal Retirement Fund (IMRF) is a statewide public pension system serving 2,976 employers across the state. Many of Illinois' public pensions are notoriously underfunded but the IMRF is an exception because counties, cities and other municipalities are required by law to make their annual contributions. In 2015, IMRF paid out $1.49 billion in benefits to 112,762 recipients. The average annual benefit was $21,492.
- The state of North Carolina has a robust public pension system for its teachers, firefighters, police officers, and other state employees. The state government has historically made its required contributions each year and this has allowed North Carolina to avoid making benefit cuts for pensioners during the recession. North Carolina also uses a very short 12-year amortization period to pay off its unfunded liability for its pensions, when many states use 25-30 year amortization periods. An amortization period is the amount of time granted to pay off debt. Using this shorter period requires a commitment from the state government to paying off the debt quickly and making the annual required contributions, but it also keeps the unfunded liability low and the pensions well-funded.

Another key ingredient to the success of public pension funds has to do with economic efficiency and economies of scale, the report found. Pension systems like IMRF and the North Carolina Local Plan are successful in part because they utilize one system for the entire state.

"All of the counties, cities, and towns pay into one system, with one management structure, one investment team, etc." the report stated. "In these states, one small town with only a few hundred public employees does not have to manage an entire pension system all on its own."

On the Web at: https://protectpensions.org/public-pensions-work-three-systems-prove/.

Assets of Largest Public Pension System Surpass $3.3 Trillion

The total holdings and investments for the 100 largest state and local government retirement systems increased slightly from $3.26 trillion at the end of the first quarter of 2016 to $3.31 trillion at the end of the second quarter of 2016, according to the U.S. Census Bureau.

Cash and short-term investments were $113.2 billion, up from $104.4 billion in the first quarter of 2016. Employee contributions were $11.7 billion, up from $11.2 billion in the first quarter of 2016. The ratio of government contributions to employee contributions was 2.6 to 1, with government contributions comprising 72.2% of the total contributions, according to the bureau's Quarterly Survey of Public Pensions.

During the second quarter, holdings and investments in corporate stocks increased 2% to $1,231 billion, corporate bonds increased 0.7% to $430 billion, international securities decreased 1.1% to $619 billion, and federal government securities increased 3.1% to $256 billion.

More information for the 100 largest U.S. public employee retirement systems is available at: http://www.census.gov/content/dam/Census/library/publications/2016/econ/g16-qspp2.pdf.

Public Funds Should Familiarize Themselves with a Third Liability Calculation: 'Solvency Liability'

GRS Consulting, an arm of Gabriel, Roeder, Smith & Co., has published a paper about a third liability calculation for public pension funds known as "solvency liability" and encourages plan sponsors to familiarize themselves with it.

In recent years, public employee retirement systems have adjusted to having two separate liability calculations: the actuarial accrued liability for funding purposes and the total pension liability for the new Governmental Accounting Standards Board (GASB) accounting disclosures.

The third type of disclosure – solvency liability – was suggested by the Pension Task Force of the Actuarial Standards Board (ASB) in its June 2016 report. GRS Consulting published an article aiming to provide an understanding of the purpose of the solvency measure as well as its uses and limitations, regardless of whether solvency liability becomes a new disclosure requirement.

The article, "Potential Solvency Liability Disclosure May Have Significant Implications for Public Employee Retirement Systems," by David T. Kausch, GRS' chief actuary and senior consultant, states: "The purpose of a solvency liability for a pension plan is to estimate the cost, as of the valuation date, to sell all liabilities accrued under the plan in the marketplace – analogous to the plan sponsor 'selling' the pension plan in the open market and having no future obligation."

In the current low interest rate environment, a pension plan's solvency liability would likely be significantly higher than its actuarial accrued liability or total pension liability.

The article explains the new measure and discusses how can solvency liability be useful to trustees and other stakeholders. It also aims to help trustees know enough about solvency liability to help them effectively communicate what it means and what it does not mean.

On the Web at: http://www.grsconsulting.com/wp-content/uploads/2016/10/GRS-Perspectives-Solvency-Liability-Final.pdf.

SEC Announces Record Number of Enforcement Actions in 2016

In 2016, the Securities and Exchange Commission (SEC) filed 868 enforcement actions exposing financial reporting-related misconduct by companies and their executives, and misconduct by registrants and gatekeepers, a new single year high for SEC enforcement actions.

The agency continued to enhance its use of data to detect illegal conduct and expedite investigations. For the fiscal year that ended Sept. 30, the enforcement actions included the most ever cases involving investment advisers or investment companies (160) and the most ever independent or standalone cases involving investment advisers or investment companies (98). The agency also reached new highs for Foreign Corrupt Practices Act-related enforcement actions (21) and money distributed to whistleblowers ($57 million) in a single year.

The agency also brought a record 548 standalone or independent enforcement actions and obtained judgments and orders totaling more than $4 billion in disgorgement and penalties.

SEC Chair Mary Jo White characterized the enforcement program as "a resounding success."

On the Web at: https://www.sec.gov/news/pressrelease/2016-212.html.

Information on State and Local Government COLAs Updated

The National Association of State Retirement Administrators (NASRA) has issued an update to its “Cost-of-Living Adjustments” report, which discusses the purpose of COLAs, the different types of COLAs provided by government pension plans, and an overview of recent state changes to COLA provisions.

The report summarizes COLA provisions by state-level plans, including any recent legislative changes. Of the 100 select state-level plans that provide COLAs, 73 provide them on an automatic basis and 27 provide them on an ad hoc basis, according to the report.

Since 2009, 15 states have changed their COLAs for current retirees, eight states have changed COLAs for current employees’ future benefits, and seven have changed COLAs for future employees only.

Since 2015, only four states have enacted COLA reductions that affect one or more major employee groups. However, in several states, the legality of these changes has been challenged. In addition, some states are including provisions that would allow COLAs to increase if the plan’s funding status or fiscal conditions improve or if inflation rises.

Most state and local governments provide a COLA to offset or reduce the effects of inflation, which erodes the purchasing power of retirement income. In addition, COLAs are important for state and local government employees who do not participate in Social Security to supplement their income during disability or normal retirement. Typically, governments prefund the cost of a COLA over an employee’s working career.

The Governmental Accounting Standards Board (GASB) requires public pension plans to disclose assumptions regarding COLAs, including whether the COLA is automatic or ad hoc, and to include the cost of COLAs in projections of pension benefit payments.

On the Web at: http://www.nasra.org/files/Issue%20Briefs/NASRACOLA%20Brief.pdf.

Funded Ratios of Public Funds Dropped a Few Points from 2015, but Was Higher than 2013-2014

As of June 30, 2016, the aggregate funded ratio for the 100 largest U.S. public pension funds was estimated to be 69.8%, as markets took back some of the gains from 2012-2014 and discount rates declined, the annual Milliman Public Pension Funding Study found.

In addition, plan sponsors continued to reduce interest rate assumptions in the expectation that returns over the coming decades will be lower.

The difference between the average sponsor-reported assumption of 7.5% and Milliman’s independently determined assumption of 6.99% was the highest seen so far, according to the study’s authors, indicating that pressure to reduce interest rate assumptions is unlikely to abate.

For this year’s report, the authors shifted their focus away from the accrued liability figures that had been used to determine a plan’s funding requirements to focus more on the Total Pension Liability figures used for financial reporting under the Governmental Accounting Standards Board Statements No. 67 and 68. Milliman claims Total Pension Liability figures are more directly comparable from plan to plan.

Basing its conclusions on the information plan sponsors reported at their last fiscal year-ends, Milliman projected that the plans experienced a median annualized return on assets of just 1.31% in the period between their fiscal year-ends and June 30, 2016. Total plan assets were estimated to have declined from \$3.24 trillion to \$3.20 trillion, while the aggregate total Pension Liability measured using the plan sponsor’s discount rates was estimated to have increased from \$4.43 trillion to \$4.58 trillion.

The aggregate funded ratio was estimated at 69.8% as of June 30, with an aggregate underfunding of \$1.38 trillion. That was lower than the funded ratio of 71.7% calculated in 2015 but higher than the funded ratio of 68.2% calculated for 2015 and 66.8% in 2013.

On the Web at: http://us.milliman.com/uploadedFiles/insight/Periodicals/ppfs/2016-public-pension-funding-study.pdf.

Proposed Retirement Plan for NYC Private-Sector Workers Has a Public Component

Since the U.S. Department of Labor (DOL) issued a final rule in August allowing states to propose and manage payroll-deduction retirement savings programs with automatic enrollment for private-sector workers, a number of states have taken advantage of the opportunity. The DOL rule allows states to operate these types of plans without establishing a pension plan under ERISA.

The latest to take advantage of the rule is New York, which launched the “NYC Nest Egg” plan in October. New York City Comptroller Scott M. Stringer announced the three-pronged approach to expand opportunities for private-sector employees in the city to improve their retirement savings. Stringer’s proposal includes:

- The Empire City 401(k), which would enable employers to join a single, publicly sponsored 401(k) plan based on the new federal law allowing multiple employers that are unaffiliated to join a single plan.
- The NYC 401(k) Marketplace, a voluntary exchange overseen by an independent board that would offer employers a choice of “screened, competing 401(k) and other retirement plans from private and public providers,” according to a news release.
- The NYC Roth IRA, an automatic default designed for eligible private-sector employers that do not select a plan on their own or through the NYC 401(k) Marketplace. Their employees would be automatically enrolled in a payroll-deduction IRA, which is not subject to ERISA. Employees could opt out at any time.

Employers who already offer established plans are encouraged to continue doing so.

A publicly enabled independent governance board will supervise the Nest Egg, and be responsible for sponsoring the Empire City 401(k) MEP. Additionally, the board will select and oversee private providers acting as fiduciaries, handling investments and executing administrative duties.

The proposed program still needs approval by the City Council and possibly by the New York state Legislature.

On the Web at: http://comptroller.nyc.gov/newsroom/comptroller-stringer-releases-new-retirement-savings-plan-for-nycs-private-sector-workers/ and http://comptroller.nyc.gov/reports/the-new-york-city-nest-egg-a-plan-for-addressing-retirement-security-in-new-york-city/.

Meanwhile, California Gov. Edmund G. Brown Jr. signed legislation to implement a state-run Secure Choice retirement savings program for 7 million private-sector employees who lack access to a workplace plan.

With the signing, California became the eighth state to implement a state-sponsored retirement plan for private-sector employees. The plan is expected to be put into effect by 2018.

On the Web at: http://www.pionline.com/article/20160929/ONLINE/160929818/california-governor-signs-secure-choice-bill-into-law.

Kentucky Becomes Latest State Retirement System to Get Out of Hedge Funds

Following the lead of public pension systems in California, New York and elsewhere, the $14.9 billion Kentucky Retirement Systems (KRS) announced plans to end its controversial investments in hedge funds.

KRS has invested about $1.5 billion in hedge funds over the last six years ($1.1 billion from its pension funds and $435 million from its health insurance funds). A “general agreement” reached by the KRS board’s investment committee calls for divesting from hedge funds over a three-year period, although a formal plan to do so is still under development.

The KRS board, with new members appointed by Gov. Matt Bevin (R), wants to focus on more simplified assets with lower fees and greater liquidity, David Eager, KRS executive director, told The Lexington Herald-Leader. With the largest pension fund for state employees only 17% funded to meet its future liabilities, there will be a greater need for cash flow in coming years, Eager said.

KRS has been criticized by state legislators, local government officials and others for putting large sums into hedge funds despite their high fees, lack of transparency and lackluster returns. But news of the divestment won rare praise from some of KRS’ most vocal critics.

On the Web: http://www.kentucky.com/news/politics-government/article108291592.html.

Social Security COLA Set at 0.3% for 2017

Monthly Social Security and Supplemental Security Income (SSI) benefits will receive a slight cost-of-living increase of 0.3% next year, the Social Security Administration announced.

The cost-of-living adjustment (COLA) will begin with benefits payable to more than 60 million Social Security beneficiaries in January 2017. Increased payments to more than 8 million SSI beneficiaries will begin on Dec. 30, 2016.

The Social Security Act ties the annual COLA to the increase in the Consumer Price Index as determined by the Department of Labor's Bureau of Labor Statistics.

Some other adjustments that take effect in January of each year are based on the increase in average wages. Based on that increase, the maximum amount of earnings subject to the Social Security tax (taxable maximum) will increase to $127,200 from $118,500.

Of the estimated 173 million workers who will pay Social Security taxes in 2017, about 12 million will pay more because of the increase in the taxable maximum.

On the Web at: www.socialsecurity.gov/cola and www.socialsecurity.gov/OACT/COLA/AWI.

New SEC Rules Modernize Information Reported by Funds, Require Liquidity Risk Management Programs

The Securities and Exchange Commission (SEC) in October agreed to modernize and enhance the reporting and disclosure of information by registered investment companies. The new rules will enhance the quality of information available to investors, and will allow the commission to more effectively collect and use data reported by funds.

The commission also agreed to enhance liquidity risk management by open-end funds, including mutual funds and exchange-traded funds (ETFs). This will help promote effective liquidity risk management across the open-end fund industry and will enhance disclosure regarding fund liquidity and redemption practices.

The new rules are part of the commission's initiative to enhance its monitoring and regulation of the asset management industry to boost transparency and investor protections.

With these rules, registered funds will be required to file a new monthly portfolio reporting form (Form N-PORT) and a new annual reporting form (Form N-CEN) that will require census-type information.

The information will be reported in a structured data format, which will allow the commission and the public to better analyze the information. The rules also will require enhanced and standardized disclosures in financial statements and will add new disclosures in fund registration statements relating to a fund's securities lending activities.

On the Web at: https://www.sec.gov/news/pressrelease/2016-215.html.

Future TEXPERS Conferences

Save the Dates on Your Calendar Today!

28TH ANNUAL CONFERENCE
Hilton Austin
Austin, Texas
Sun., April 9 - Wed., April 12, 2017

SUMMER EDUCATIONAL FORUM
Grand Hyatt
San Antonio, Texas
Sun, August 13 – Tue, August 15, 2017

29TH ANNUAL CONFERENCE
South Padre Island
Convention Center
South Padre Island, Texas
Sun, April 15 - Wed, April 18, 2018

SUMMER EDUCATIONAL FORUM
Grand Hyatt
San Antonio, Texas
Sun, August 12 – Tue, August 14, 2018

30TH ANNUAL CONFERENCE
Hilton Austin
Austin, Texas
Sun, April 7 – Wed, April 10, 2019

Visit http://www.texpers.org/pastconferences to access presentations and handouts from past TEXPERS Conferences