SFERS
San Francisco Employees' Retirement System

City and County of San Francisco
Employees' Retirement System

# RETIREMENT BOARD CALENDAR SHEET
## Retirement Board Meeting of August 10, 2016

**To:** Retirement Board

**Through:** Jay Huish
Executive Director

William J. Coaker, Jr. – CFA, MBA
Chief Investment Officer

**From:** Joshua K. Man, CFA
Security Analyst, Fixed Income

**Date:** August 10, 2016

**Re:** Chief Investment Officer's Report – Plan Value

Best Available as of July 31, 2016

| | Value [1] (000) | MTD (%) | QTD (%) | YTD (%) | FYTD (%) |
|---|---|---|---|---|---|
| San Francisco Empl. Ret. Sys. | 20,870,309 | 2.46 | 2.46 | 4.68 | 2.46 |
| Total Global Equity | 9,928,514 | 4.65 | 4.65 | 5.25 | 4.65 |
| *US Equity* | *5,008,513* | *4.46* | *4.46* | *6.38* | *4.46* |
| *Intl Equity* | *4,421,219* | *4.98* | *4.98* | *3.80* | *4.98* |
| *Global Equity* | *498,783* | *3.65* | *3.65* | *6.83* | *3.65* |
| Total Fixed Income | 4,597,987 | 0.98 | 0.98 | 6.06 | 0.98 |
| Total Private Equity | 2,744,445 | 0.15 | 0.15 | 3.00 | 0.15 |
| Total Real Assets | 2,430,694 | 0.43 | 0.43 | 3.18 | 0.43 |
| Total Cash (Inv+Ded) Ex Sec Lending | 1,168,668 | 0.05 | 0.05 | 0.29 | 0.05 |
| Total Cash (Inv+Ded) Inc Sec Lending | | 0.09 | 0.09 | 1.02 | 0.09 |

**Notes:**
[1] Valuations are preliminary and are reported gross of fees. The reported returns are based on prior month-end values that have been audited and adjusted by our Custody Bank since the last report.

# SFERS Asset Allocation
## July 31, 2016

| (In $ Million) | Section 1 - Current Month | | | | | | | | | | Section 2 - Projected (2-Month Period) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6/30/16 Beg. Bal. [a] + | Cash In [b] + | Cash Out [c] + | Market Change (1) [d] = | 7/31/16 End. Bal. [e] | 7/31/16 Allocation | Asset Allocation Target | Min | Max | Compli-ance | Re-Bal'g [f] | Net Cash [g] | 9/30/16 Proj'd Bal [h] = [e]+[f]+[g] | 9/30/16 Allocation | Compli-ance |
| **Growth/Capital Appreciation** | | | | | | | | | | | | | | | |
| Global Equity (A) | 9,486.7 | 0.0 | (1.6) | 443.5 | 9,928.5 | 48.2% | 47% | 40% | 54% | Yes | | | 9,928.5 | 48.4% | Yes |
| Private Equity (B) | 2,695.0 | 61.7 | (16.4) | 4.1 | 2,744.4 | 13.3% | 16% | 10% | 20% | Yes | | (18.7) | 2,725.7 | 13.3% | Yes |
| **Total Growth/Capital Appreciation (A) + (B)** | **12,181.7** | **61.7** | **(18.1)** | **447.6** | **12,673.0** | **61.6%** | **63%** | **53%** | **73%** | **Yes** | | **(18.7)** | **12,654.2** | **61.7%** | **Yes** |
| **Total Real Assets/Inflation Hedge Real Assets** | **2,344.8** | **86.1** | **(11.7)** | **11.5** | **2,430.7** | **11.8%** | **12%** | **9%** | **15%** | **Yes** | | **(44.0)** | **2,386.7** | **11.6%** | **Yes** |
| **Capital Preservation/Risk Reduction** | | | | | | | | | | | | | | | |
| Fixed Income (C) | 4,654.9 | 11.4 | (114.3) | 45.9 | 4,598.0 | 22.3% | 25% | 20% | 30% | Yes | | (11.7) | 4,586.2 | 22.4% | Yes |
| Investment Cash (D) | 485.2 | 650.5 | (259.2) | 0.0 | 876.6 | 4.3% | 0% | 0% | 1% | **No** | (75.0) | 74.5 | 876.0 | 4.3% | **No** |
| Dedicated Cash -Benefits | 274.9 | 101.8 | (85.0) Benefit Pymt | 0.0 | 291.7 | | | | | | 75.0 | (151.0) | 215.7 | | |
| **Total Capital Preservation/Risk Reduction (C) + (D)** | **5,140.2** | **661.9** | **(373.5)** | **45.9** | **5,474.5** | **26.6%** | **25%** | **20%** | **30%** | **Yes** | **(75.0)** | **62.7** | **5,462.3** | **26.6%** | **Yes** |
| **Total Portfolio** | **19,942.0** | **911.5** | **(488.2)** | **505.0** | **20,870.3** | | | | | | **0.0** | **(151.0)** | **20,719.3** | | |
| *Monthly MV % Change* | | | | | *4.7%* | | | | | | | | | | |
| **Total Investment Portfolio** (excl Ded Cash) | **19,666.7** | | | **505.0** | **20,578.2** | **100.0%** | **100%** | | | | **(75.0)** | **0.0** | **20,503.2** | **100.0%** | |
| *Monthly MV % Change* | | | | | *4.6%* | | | | | | | | | | |

Cash In = Interportfolio In; Cash Out = Interportfolio Out.

Beginning and Ending Asset Balances are based on 'Entry Dates'.

Asset Allocation is calculated based on Total Portfolio assets minus Dedicated Cash

(1)Market Change includes income received except for Inv and Ded Cash accounts.

Estimated Unfunded Commitments as of Current Month End:

| | |
|---|---|
| PE : | $2,650.2 |
| RA : | $2,074.2 |
| FI: | $253.5 |
| Total : | $4,977.9 |
| RE Bridge Loan : | $30.0 |

## SFERS Asset Allocation - with Sub Asset Classes
## July 31, 2016

(In $ Million)

| | | Section 1 - Current Month | | | | | | | | | | Section 2 - Projected (2-Month Period) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 6/30/16 Beg. Bal. [a] + | Cash In [b] + | Cash Out [c] + | Mkt Change [d] = | 7/31/16 End. Bal. [e] | 7/31/16 Allocation | Asset Allocation Target | Min | Max | Compliance | Re-Bal'g [f] | Net Cash [g] | 9/30/16 Proj'd Bal [h] =[e]+[f]+[g] | 09/30/16 Allocation | Compliance |
| **Growth/Capital Appreciation** | | | | | | | | | | | | | | | | |
| **Global Equity (A)** | | 9,486.7 | 0.0 | (1.6) | 443.5 | 9,928.5 | 48.2% | 47% | 40% | 54% | Yes | 0.0 | 0.0 | 9,928.5 | 48.4% | Yes |
| US Large Cap Core: | Passive: S&P 500 Index | 1,217.9 | | (1.6) | 45.8 | 1,262.1 | 12.7% | 16% | 10% | 22% | Yes | | | 1,262.1 | 12.7% | Yes |
| | Enhanced S&P: QMA | 693.9 | | | 33.7 | 727.5 | 7.3% | 5% | 0% | 7% | No | | | 727.5 | 7.3% | No |
| | Passive: MSCI-US ex Fossil Fuels | 104.5 | | | 4.4 | 108.9 | 1.1% | | | | | | | 108.9 | 1.1% | |
| US Large Cap Growth: | Wellington | 460.6 | | | 25.5 | 486.1 | 4.9% | 8.9% 9% | 6% | 12% | Yes | | | 486.1 | 4.9% | 8.9% Yes |
| | Sands | 366.0 | | | 26.2 | 392.2 | 4.0% | | | | | | | 392.2 | 4.0% | |
| US Large Cap Value: | Passive: BlackRock | 983.4 | | | 29.3 | 1,012.8 | 10.2% | 9% | 6% | 12% | Yes | | | 1,012.8 | 10.2% | Yes |
| US Small Cap: | Core: Bivium | 104.2 | | | 6.4 | 110.6 | 1.1% | 6% | 4% | 8% | Yes | | | 110.6 | 1.1% | Yes |
| | Growth: NT Russell 2000 Gth Fd | 216.6 | | | 14.2 | 230.8 | 2.3% | | | | | | | 230.8 | 2.3% | |
| | Value: DFA | 288.6 | | | 13.9 | 302.6 | 3.0% | | | | | | | 302.6 | 3.0% | |
| US Convertibles: | Advent (Global) | 198.8 | | | 8.7 | 207.5 | 2.1% | 3% | 0% | 5% | Yes | | | 207.5 | 2.1% | Yes |
| | Zazove | 159.4 | | | 8.0 | 167.4 | 1.7% | | | | | | | 167.4 | 1.7% | |
| International Core: | AQR | 635.5 | | | 35.5 | 671.0 | 6.8% | 14% | 9% | 19% | Yes | | | 671.0 | 6.8% | Yes |
| | Cap Guardian | 217.6 | | | 12.6 | 230.2 | 2.3% | | | | | | | 230.2 | 2.3% | |
| | NT EAFE Passive | 246.4 | | | 12.5 | 258.9 | 2.6% | | | | | | | 258.9 | 2.6% | |
| International Growth: | William Blair | 519.0 | | | 21.6 | 540.7 | 5.4% | 5% | 3% | 7% | Yes | | | 540.7 | 5.4% | Yes |
| International Value: | LSV | 443.9 | | | 22.6 | 466.5 | 4.7% | 11% | 7% | 15% | Yes | | | 466.5 | 4.7% | Yes |
| | Causeway | 460.6 | | | 19.2 | 479.8 | 4.8% | | | | | | | 479.8 | 4.8% | |
| International Small Cap: | DFA | 419.2 | | | 24.2 | 443.4 | 4.5% | 6% | 4% | 8% | Yes | | | 443.4 | 4.5% | Yes |
| | Pyramis | 330.0 | | | 17.2 | 347.2 | 3.5% | | | | | | | 347.2 | 3.5% | |
| Emerging Mkts.: | Mondrian | 267.6 | | | 10.3 | 277.9 | 2.8% | 9.8% 11% | 7% | 15% | Yes | | | 277.9 | 2.8% | 9.8% Yes |
| | Wellington | 115.2 | | | 4.8 | 120.0 | 1.2% | | | | | | | 120.0 | 1.2% | |
| | Capital Intl (EMGF) | 102.8 | | | 4.2 | 107.0 | 1.1% | | | | | | | 107.0 | 1.1% | |
| | DFA Small Cap | 158.5 | | | 9.2 | 167.7 | 1.7% | | | | | | | 167.7 | 1.7% | |
| | DFA Core | 289.1 | | | 15.9 | 305.0 | 3.1% | | | | | | | 305.0 | 3.1% | |
| Global Equity | Arrowstreet Capital | 481.2 | | | 17.6 | 498.8 | 5.0% | 5% | 0% | 7% | Yes | | | 498.8 | 5.0% | Yes |
| Opportunistic Strategies: | Ashmore GSSF III | 1.1 | | | 0.0 | 1.1 | 0.0% | 0% | 0% | 10% | Yes | | | 1.1 | 0.0% | Yes |
| | Ashmore GSSF V | 3.8 | | | 0.0 | 3.8 | 0.0% | | | | | | | 3.8 | 0.0% | |
| *Monthly MV % Change for Intl Equity* | | | | | | 4.7% | 100.0% | 100% | | | | | | | 100.0% | |
| **Private Equity (B)** | | 2,695.0 | 61.7 | (16.4) | 4.1 | 2,744.4 | 13.3% | 16% | 10% | 20% | Yes | 0.0 | (18.7) | 2,725.7 | 13.3% | Yes |
| *Monthly MV % Change for Private Equity* | | | | | | 1.8% | | | | | | | | | | |
| **Total Growth/Capital Appreciation (A) + (B)** | | 12,181.7 | 61.7 | (18.1) | 447.6 | 12,673.0 | 61.6% | 63% | 53% | 73% | Yes | 0.0 | (18.7) | 12,654.2 | 61.7% | Yes |
| *Monthly MV % Change* | | | | | | 4.0% | | | | | | | | | | |

# SFERS Asset Allocation - with Sub Asset Classes (Cont'd)
## July 31, 2016

| (In $ Million) | | 6/30/16 Beg. Bal. [a] + | Cash In [b] + | Cash Out [c] + | Mkt Change [d] = | 7/31/16 End. Bal. [e] | 7/31/16 Allocation | Asset Allocation Target | Min | Max | Compliance | Re-Bal'g [f] | Net Cash [g] | 09/30/16 Proj'd Bal [h] =[[e]+[f]+[g]] | 09/30/16 Allocation | Compliance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Section 1 - Current Month** | | | | | | | | | | **Section 2 - Projected (2-Month Period)** | | | | |
| **Total Real Assets/Inflation Hedge** | | | | | | | | | | | | | | | | |
| **Real Assets** | | 2,344.8 | 86.1 | (11.7) | 11.5 | 2,430.7 | 11.8% | 12% | 9% | 15% | Yes | 0.0 | (44.0) | 2,386.7 | 11.6% | Yes |
| Global-Blackrock EPRA NAREI Index | | 164.7 | 0.0 | 0.0 | 4.0 | 168.7 | 6.9% | 10% | 8% | 12% | No | | | 168.7 | 7.1% | No |
| *Monthly MV % Change for Total Real Assets* | | | | | | 3.7% | | | | | | | | | | |
| **Capital Preservation/Risk Reduction** | | | | | | | | | | | | | | | | |
| **Fixed Income (C)** | | 4,654.9 | 11.4 | (114.3) | 45.9 | 4,598.0 | 22.3% | 25% | 20% | 30% | Yes | 0.0 | (11.7) | 4,586.2 | 22.4% | Yes |
| Passive Index: | BC US Debt Index Fund | 953.0 | | | 6.1 | 959.1 | 20.9% | 3% | 0% | 20% | No | | | 959.1 | 20.9% | No |
| Core US Bonds: | Internal Fixed | 238.8 | | (100.3) | 0.0 | 138.5 | 3.0% | 10% | 0% | 20% | Yes | | | 138.5 | 3.0% | Yes |
| Core Plus: | AFL-CIO | 233.7 | | | 0.0 | 233.7 | 5.1% | 35.0% | | | | | | 233.7 | 5.1% | 35.1% |
| | Baird | 738.4 | | | 7.5 | 746.0 | 16.2% | 56% | 45% | 70% | No | | | 746.0 | 16.3% | No |
| | IR&M | 626.2 | | | 5.5 | 631.8 | 13.7% | | | | | | | 631.8 | 13.8% | |
| Commercial Mortgages: | Prima | 434.4 | | (5.6) | 6.5 | 435.3 | 9.5% | 8% | 6% | 14% | Yes | | | 435.3 | 9.5% | Yes |
| High Yield/Bank Loan: | Oaktree HY | 316.5 | | | 8.0 | 324.5 | 7.1% | 9% | 7% | 11% | Yes | | | 324.5 | 7.1% | Yes |
| | Bain Capital Credit Bank Loans | 156.2 | | | 1.9 | 158.2 | 3.4% | | | | | | | 158.2 | 3.4% | |
| High Yield CMBS: | Pyramis | 222.1 | | | 2.9 | 225.1 | 4.9% | 5% | 3% | 10% | Yes | | | 225.1 | 4.9% | Yes |
| Emerging Market Debt: | GMO | 313.5 | | (5.1) | 6.1 | 314.5 | 6.8% | 9% | 4% | 14% | Yes | | | 314.5 | 6.9% | Yes |
| | PIMCO | 163.7 | | | 1.1 | 164.8 | 3.6% | | | | | | | 164.8 | 3.6% | |
| Opportunistic Fixed Income Portfolio | | 257.9 | 11.1 | (3.2) | 0.5 | 266.3 | 5.8% | 0% | 0% | 10% | Yes | | (11.7) | 254.5 | 5.5% | Yes |
| *Monthly MV % Change for Fixed Income* | | | | | | -1.2% | 100% | 100% | | | | | | | 100% | |
| **Investment Cash (D)** | | 485.2 | 650.5 | (259.2) | 0.0 | 876.6 | 4.3% | 0% | 0% | 1% | No | (75.0) | 74.5 | 876.0 | 4.3% | No |
| **Dedicated Cash - Benefits** | | 274.9 | 101.8 | (85.0) Benefit Pymt | 0.0 | 291.7 | | | | | | 75.0 | (151.0) | 215.7 | | |
| **Total Capital Preservation/Risk Reduction (C) + (D)** | | 5,140.2 | 661.9 | (373.5) | 45.9 | 5,474.5 | 26.6% | 25% | 20% | 30% | Yes | (75.0) | 62.7 | 5,462.3 | 26.6% | Yes |
| *Monthly MV % Change* | | | | | | 6.5% | | | | | | | | | | |
| **Total Portfolio** | | 19,942.0 | 911.5 | (488.2) | 505.0 | 20,870.3 | | | | | | 0.0 | (151.0) | 20,719.3 | | |
| *Monthly MV % Change* | | | | | | 4.7% | | | | | | | | | | |
| **Total Investment Portfolio** (excl Ded Cash) | | 19,666.7 | | | 505.0 | 20,578.2 | 100.0% | 100% | | | | (75.0) | 0.0 | 20,503.2 | 100.0% | |
| *Monthly MV % Change* | | | | | | 4.6% | | | | | | | | | | |

## San Francisco City and County Employees' Retirement System
## Cash Activities and Projections
## As of July 31, 2016

### Investment Cash Account (In $ Million)

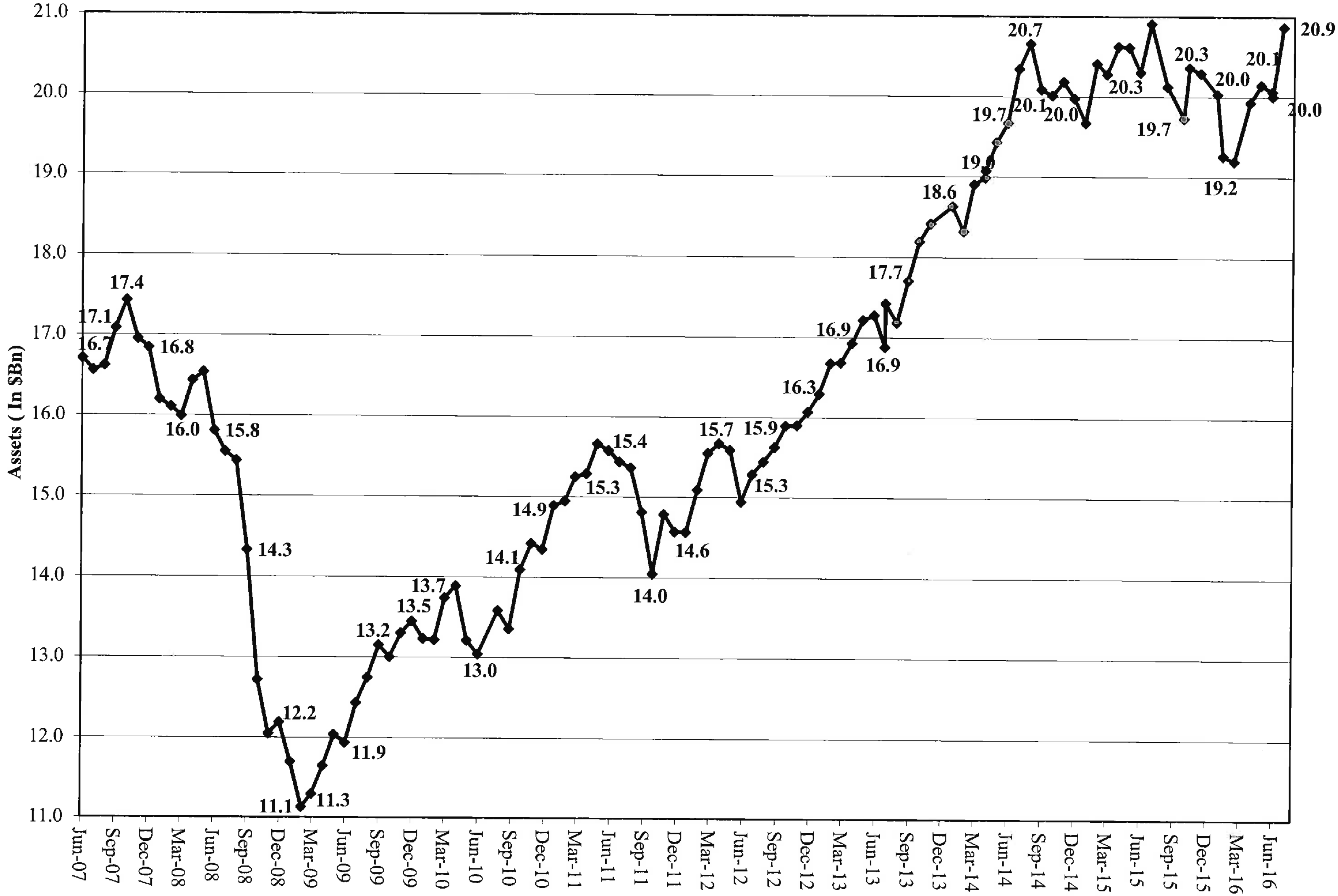
| | | | |
|---|---|---|---|
| **Beginning Balance as of 07/01/2016** | | **$485.2** | |
| Private Equity Net Funding | | ($45.3) | |
| Real Asset Net Funding | | ($74.4) | |
| Equity/Fixed Income Activities | | | |
| *Net transfers to and from Public Equity* | $0.0 | | |
| *Net transfers to and from Public Fixed Income* | $111.0 | | |
| *Opportunistic Fixed Income Net Funding* | ($7.8) | | |
| Equity/Fixed Income Net Funding | | $103.2 | |
| Funds T'd to Ded Cash | | ($100.0) | |
| Funds T'd to Recaptured Comm Credits | | ($0.4) | |
| Funds R'd from Annual City Contribution | | $507.2 | |
| Income R'd | | $0.4 | |
| Securities Lending Earnings | | $0.5 | |
| **Ending Balance as of 07/31/2016** | | **$876.6** | |
| **Projected Cash Transactions** | | | |
| | | Next 2 Months | Next 6 Months |
| Private Equity Net Funding | | $18.7 | $67.9 |
| Real Assets Net Funding | | $44.0 | $36.4 |
| Opportunistic Fixed Income Net Funding | | $11.7 | $19.5 |
| Equity/Fixed Income Net Funding | | $0.0 | $0.0 |
| T'd to Ded Cash | | ($75.0) | ($75.0) |
| Total Net Use (-)/ Receipt (+) of Funds | | **($0.5)** | **$48.8** |
| **Projected Ending Balance** | | **$876.0** | **$925.4** |

### Dedicated (Benefit Payment) Cash Account

| | |
|---|---|
| **Beginning Balance as of 07/01/2016** | **$274.9** |
| Benefit Payment for July 2016 | ($85.0) |
| Income R'd from Domestic Equity and Fixed Income | $1.7 |
| R'd from Inv Cash | $100.0 |
| Income R'd | $0.1 |
| **Ending Balance as of 07/31/2016** | **$291.7** |
| **Projected Cash Transactions** | |
| | Next 2 Months |
| Benefit Payment Reserve for August 2016 & September 2016 | ($153.0) |
| Income R'd from Domestic Equity and Fixed Income | $2.0 |
| R'd from Inv Cash | $75.0 |
| Total Net Use (-)/ Receipt (+) of Funds | ($76.0) |
| **Projected Ending Balance** | **$215.7** |

*Positive sign = Cash inflow to the cash account; Negative sign = Cash outflow from the cash account.*

SFERS Monthly Net Assets
June 2007 - July 2016




July 2016 figure is preliminary

City and County of San Francisco

SFERS
San Francisco Employees' Retirement System

San Francisco City and County
Employees' Retirement System
Chief Investment Officer

William J. Coaker Jr., CFA, MBA

# Memorandum

| | |
|---|---|
| **DATE:** | August 10, 2016 |
| **TO:** | Members of the Retirement Board |
| **THROUGH:** | Jay Huish<br>Executive Director |
| **FROM:** | William J. Coaker Jr. – CFA, CFP, MBA<br>Chief Investment Officer |
| **SUBJECT:** | CIO Report Memorandum |

## 1 – Investment Returns

The public equity markets have recorded very strong gains since shortly after the Brexit vote in Great Britain on June 24th. In July our public equity portfolio gained a robust 4.65%, led by very strong gains in both our U.S. and International equity portfolios, which were up 4.46% and 4.98% during the month, respectively.

Our fixed income portfolio gained 0.98% in July, a large one month return for bonds. Our private equity and real assets portfolios edged up by 0.15% and 0.43%, respectively, during the month.

On a calendar year basis, our portfolio has gained 4.68%, a very fine return for a seven month period. Our U.S. equity portfolio has gained 6.38% thus far this year, while our fixed income portfolio has recorded a very impressive return of 6.06%. Our international equity (up 3.80%), private equity (3.00%), and real assets portfolios (3.18%) have also registered positive returns so far this calendar year.

While our fixed income returns this calendar year have been excellent, it should be pointed out that our bond portfolio is still substantially overweight credit sensitive issues in high yield bonds, emerging market bonds, commercial mortgage backed securities, bank loans, and other securities that are either unrated or rated below investment grade.

In FYE June 30, 2016 our portfolio gained approximately 1.30%. While our absolute returns were quite low, returns relative to our peers for last fiscal year are expected to be around the top quartile.

## 2 – Economic Conditions

Even as stocks soared in July, GDP for the second quarter was very disappointing with estimated growth of just 1.2%. For the first half of 2016, GDP growth has been just 1.1% annualized.

The Wall Street Journal wrote on June 28th that "the economy appears to have lost steam as it enters its eighth year of expansion, one that has failed to achieve the robust growth that lifted the middle class in the 1990s. Economists expect the expansion to continue, but without the necessary vigor to lift Americans' long-term living standards.

"The good news is that with okay, but not great growth, the economy has not developed imbalances that would indicate a recession is coming soon," Gus Faucher, deputy chief economist at PNC, said in a note to clients. He said big dangers loom, including the fallout from the U.K.'s vote to leave the European Union and a strong dollar tied to investor jitters about the global economy. "Greater uncertainty about the prospects for global growth and increased financial market volatility could make U.S. businesses more cautious in hiring and investing, and could make consumers less willing to spend," both of which would weigh on growth, he said.

Supporting the view that a recession is not near is that the employment report released on August 5th reported a net increase of 255,000 new jobs in the month of July. That solid number was buoyed by data showing strong job growth for teens and adults without a high school education, whose job growth for most of the eight year expansion has been frustratingly slow.

While it is a good sign that the economic expansion has shown signs of broadening, the concerns facing the economic and investment return environment are as follows:

- Global economic growth remains sluggish.
- Valuations in U.S. public equity, real estate, and private equity are high.
- Fixed income yields are very low.
- Corporate profit growth has been low; it's actually been consistently negative over the past year.
- How much longer can the current economic expansion last?

## 3 – Cerberus Levered Loan Opportunities Fund III, L.P.

At its meeting on March 9, 2016, the Retirement Board approved in closed session an investment of up to $100 million in Cerberus Levered Loan Opportunities Fund III, L.P. ("Fund III"). The investment was approved by the following vote:

Ayes: Bridges, Cohen, Driscoll, Paskin-Jordan, Stansbury

Absent: Makras, Meiberger

SFERS' investment of $75 million in Fund III closed on August 1, 2016.

Cerberus Capital Management was founded in 1992 by Stephen Feinberg and William Richter. The firm is headquartered in New York with ten affiliate offices in the United States, Europe and Asia.

More information about Cerberus Capital Management can be found at http://www.cerberuscapital.com/.

**4 - FountainVest China Capital Partners Fund III, L.P.**

At its meeting on June 8, 2016, the Retirement Board approved in closed session an investment of up to $100 million in FountainVest China Capital Partners Fund III, L.P.

The investments were approved by the following vote:

Ayes: Commissioners Cohen, Bridges, Driscoll, Paskin-Jordan, Meiberger and Stansbury
Absent: Commissioners Makras

SFERS' investment of $100 million in FountainVest China Capital Partners Fund III, L.P. closed on July 12, 2016.

FountainVest China Capital Partners Fund III, L.P. is classified as a large buyout investment within SFERS' private equity portfolio.

More information about FountainVest Partners is available on h*ttp://www.fountainvest.com*

**5 - GSO Capital Opportunities Fund III, L.P.**

At its meeting on June 8, 2016, the Retirement Board approved in closed session an investment of up to $75 million in GSO Capital Opportunities Fund III, L.P. ("COF III"). The investment was approved by the following vote:

Ayes: Bridges, Cohen, Driscoll, Meiberger, Paskin-Jordan, Stansbury

Absent: Makras

SFERS' investment of $75 million in COF III closed on July 15, 2016.

GSO Capital Partners was founded in 2005 by Bennett Goodman, J. Albert "Tripp" Smith and Douglas Ostrover. The firm is headquartered in New York with offices in London, Dublin, and Houston.

More information about GSO Capital Partners can be found at http://www.blackstone.com/the-firm/asset-management/credit-(gso).

**6 – Harvest SF MLP Partners, LP**

At its meeting on June 8, 2016, the Retirement Board approved in closed session an investment of up to $100 million with Harvest SF MLP Partners, LP. The investment was approved by the following vote:

Ayes: Bridges, Cohen, Driscoll, Meiberger, Paskin-Jordan, Stansbury
Absent: Makras

SFERS' commitment of $100 million closed on July 18, 2016. The investment is classified as a natural resources investment within SFERS' Real Assets portfolio and is SFERS' first investment with Harvest Fund Advisors.

More information about the firm is available at www.harvestmlp.com.

### 7 – Custodial Search

From July 25 to July 27 Staff and Callan Associates conducted onsite evaluations of the three finalists in our custodial search: Mellon, Northern Trust, and State Street. Members of staff included Bob Shaw, Managing Director of Public Markets; David Francl, Managing Director of Absolute Return; Ellen Brownell, Director of Asset Allocation, Risk Management and Innovation; Jim Burruel, Finance Director; and myself. Mark Kinoshita represented SFERS from Callan Associates. That group plus Jay Huish as well as Bo Abesemis from Callan subsequently met to review our analysis and formulate next steps. We expect to make a recommendation to the Board in the next few months.

### 8 – Personnel

Our portfolio management team is in place but we are recruiting for several analyst positions. We expect to fill several positions filled before the end of the year.

### 9 – Investment Committee Meetings

The Chair of the Investment Committee, Ms. Leona Bridges, and I met to review the IC meetings that we held last year and to plan for this year. The IC meetings for this year are scheduled as follows:

- September 21, 2016;
- November 16, 2016;
- February 15, 2017;
- May 17, 2017.

### 10 – Research and Action Plans to Reduce Risk, Increase Diversification, and Increase Alpha Generation

SFERS investment staff, NEPC, and Cambridge have met several times in recent weeks to evaluate our portfolio and what we can do to increase returns and alpha generation, reduce risk, and enhance diversification. Below is an updated summary of our planned actions on how to achieve each of these objectives.

| Policy and Practices: | Time Frame |
|---|---|
| - Asset Allocation with the IC | September 2016 |
| - Asset Allocation with the Board | October 2016 |
| - Sub-Asset Class Review with the Board | November 2016 |
| - Treasury Index | August 2016 |
| - Policies for Absolute Return | August 2016 |
| - Timeline for Absolute Return | September 2016 |
| - Modify the Process for Manager Selection | September 2016 |
| - Review Investment Guidelines | 4q 2016 |
| - Fully Integrated Risk Management Solution | 1q 2017 |

| *Potential Investments:* | **Time Frame:** |
|---|---|
| *- China Public Equity* | October 2016 |
| *- Fund the Treasury Index approved in August* | September 2016 |
| *- Low Volatility Public Equity Strategies* | 4q 2016 |
| *- Health Care/Biotech Public Equity* | December 2016 or 1q 2017 |
| *- Modify the Manager Lineup in Public Equity and Fixed Income* | October-December 2016 |
| *- China and Asia Private Equity, Small and Midcap Buyout Specialists, and Private Debt* | Continuing the implementation of these strategies |
| *- Fund the Absolute Return Program* | Timeline will be presented to the Board in September 2016 |
| *- Tail Risk Hedging and Factor Tilts* | Timeline depends on results of our research; will update the Board quarterly |

**Appendix:**

The information below was provided to the Board in the CIO Report last month. It is included in the Appendix this month for the reference of the Board.

**Status of our Actions on PIMCO's Presentation on Risk Mitigating Options**

At the June 20, 2016 Investment Committee Meeting PIMCO made a presentation titled "Downside Protection: Exploring the Options." The options discussed at the meeting included:

- Long Treasury Bonds
- Low Volatility Stocks
- Tail Risk Hedging
- Trend Following/Managed Futures

PIMCO summarized the key takeaways as follows:

- Direct Tail Risk Hedging provides the most reliable protection in equity selloffs; however, many pension plans consider it too expensive to implement

    - Indirect tail risk hedging can mitigate this concern but it does not fully address it

- Long Treasuries have historically been an effective hedge to equity downturns, but given low starting yields the effect may not be as strong in the future

    - If interest rates rise, the prices of bonds falls (meaning,long treasuries would lose money)
    - An allocation to Treasuries may need to be significant (15% or more of plan assets) in order to achieve the same reduction in tail risk as provided by tail risk hedging

- Trend Following/Managed Futures strategies have the potential to earn a positive return and offer protection during prolonged market downturns, but may be ineffective in the event of a sharp selloff

- Low volatility stocks may help address downside mitigation objectives

- A combination approach may offer the most cost-effective and reliable solution

Next is the status of staff's actions on each of the options discussed in PIMCO's presentation:

- Tail Risk Hedging: Ms. Brownell, Director of Asset Allocation, Risk Management and Innovation, presented the cost and benefit of tail risk hedging at the June 2016 Investment Committee meeting. A tail risk hedging program by purchasing put options is expensive, while simultaneously selling call options mitigates the cost, it also limits our gains if stocks rise. That said, we are continuing to evaluate Tail Risk Hedging as part of an overall risk reducing strategy.

- Long Treasury Bonds: Through our investments in the Internally Managed Bond Portfolio and the Barclays U.S. Debt Index Fund we have approximately $650 million, or 3.25% of plan assets, invested in a mix of short, intermediate and long dated Treasuries. We are bringing a dedicated Short Treasury Index and Long Treasury Index to the Board this month.

- Trend Following/Managed Futures: These strategies are considered to be hedge funds. As such, Trend Following/Managed Futures will be considered as part of the Absolute Return program.

- Low Volatility Equity Strategies: The Public Equity team and NEPC expect to bring recommendations to invest in one or several Low Volatility Equity strategies by the end of the year.

**8 – Results of a Hypothetical Tail Risk Hedging Program**

We asked PIMCO to furnish us with the results of a hypothetical tail risk hedging program under six scenarios. The first two scenarios were as follows:

*1 – We purchased 10% Out-of-the-Money (OTM) Put Options on January 1, 2016 and held them thru June 30, 2016.*

*2 – We purchased 10% OTM Put Options and simultaneously sold 5% OTM Call Options on January 1, 2016 and held both positions thru June 30, 2016.*

The results would have been as follows:

| Jan-June 2016 | MSCI World | MSCI World w/ 10% OTM Puts | MSCI World w/ 10% OTM Puts + 5% OTM Calls |
|---|---|---|---|
| Total Return | 1.2% | 0.4% | 1.4% |
| Max Drawdown | -11.4% | -5.6% | -5.0% |

The MSCI World Index rose 1.2% in the first six months of this year. If we had bought 10% OTM Puts on January 1, 2016 and held them thru June 30, 2016, such a program would have detracted 0.8% from our returns. If we had hedged all of our approximately $10 billion public equity portfolio, such a program would have detracted $80 million from our returns.

If we had bought 10% OTM Puts on January 1, 2016 and simultaneously sold 5% OTM Calls, our returns would have risen by 0.2%. On a $10 billion hedged equity program, it would have added $20 million to our returns.

The third and fourth scenarios were as follows:

*3 – We purchased 10% Out-of-the-Money (OTM) Put Options on June 1, 2016 and held them thru June 30, 2016.*

*4 – We purchased 10% OTM Put Options and simultaneously sold 5% OTM Call Options on June 1, 2016 and held both positions thru June 30, 2016.*

The results would have been as follows:

| June 1-June 30, 2016 | MSCI World | MSCI World w/ 10% OTM Puts | MSCI World w/ 10% OTM Puts + 5% OTM Calls |
|---|---|---|---|
| Total Return | -0.6% | -0.3% | 1.7% |
| Max Drawdown | -7.2% | -5.6% | -3.2% |

The MSCI World Index declined -0.6% in the month of June. If we had bought 10% OTM Puts on June 1, 2016 and held them for one month, it would have added 0.3% to our returns, or $30 million on a $10 billion hedged equity portfolio.

If we had bought 10% OTM Puts on June 1, 2016, simultaneously sold 5% OTM Calls, and held both positions for the month, our returns would have been boosted by 2.3%, or $230 million on a $10 billion hedged equity portfolio.

The fifth and sixth scenarios were as follows:

*5 – We purchased 10% Out-of-the-Money (OTM) Put Options on January 1, 2013 and held them thru June 30, 2016.*

*6 – We purchased 10% OTM Put Options and simultaneously sold 5% OTM Call Options on January 1, 2013 and held both positions thru June 30, 2016.*

The results would have been as follows:

| Jan 2013-June 2016 (All Annualized) | MSCI World | MSCI World w/ 10% OTM Puts | MSCI World w/ 10% OTM Puts + 5% OTM Calls |
|---|---|---|---|
| Total Return | 6.9% | 4.0% | 2.5% |
| Max Drawdown | -19.2% | -14.3% | -9.6% |

| | MSCI World | MSCI World w/ 10% OTM Puts | MSCI World w/ 10% OTM Puts + 5% OTM Calls |
|---|---|---|---|
| 2013 | | | |
| Total Return | 22.8% | 18.8% | 7.2% |
| Max Drawdown | -8.6% | -7.7% | -3.4% |
| 2014 | | | |
| Total Return | 4.2% | 1.8% | 3.4% |
| Max Drawdown | -9.2% | -8.3% | -6.0% |
| 2015 | | | |
| Total Return | -2.4% | -5.5% | -3.1% |
| Max Drawdown | -14.9% | -12.1% | -8.6% |
| Jan-June 2016 | | | |
| Total Return | 1.2% | 0.4% | 1.4% |
| Max Drawdown | -11.4% | -5.6% | -5.0% |

The MSCI World Index rose 6.9% annualized for the 3 ½ year period from January 1, 2013 through June 30, 2016. If we had bought 10% OTM Puts on January 1, 2013 and held them for 3 ½ years, it would have reduced our equity returns by 2.9% annualized. If we had hedged a $10 billion equity portfolio, it would have reduced our returns by roughly $900 million.

If we had bought 10% OTM Puts on January 1, 2013, simultaneously sold 5% OTM Calls, and held both positions for 3 ½ years, our equity returns would have been reduced by 4.4% annualized. If we had hedged a $10 billion equity portfolio, it would have reduced our returns by roughly $1.3 billion.

In all six scenarios we would have had much smaller losses in market declines. We would also have had better returns in three of the four recent scenarios (Jan-June 2016 and June 2016). That said, our returns would have been much lower over the past 3 ½ years. It should be noted, however, that we have not had a large or prolonged market decline over the past 3 ½ years.

Tail Risk Hedging involving selling call options can significantly reduce returns in major equity rallies. For example, in 2013 when the MSCI World Index experienced a very strong gain of 22.8%, a program involving buying 10% OTM Puts and financing the cost of the puts by simultaneously selling 5% OTM Calls would have reduced our equity returns to just 7.2%.

Over the next few months we will be providing the Board with additional scenarios that include large or prolonged equity declines so that the Board can better understand how hedging programs may perform in different market environments.