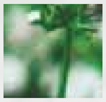

# 2016

## Investment Year in Review

# 2016 Investment Year in Review

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# Introduction

As Chief Executive Officer of the Sacramento County Employees' Retirement System (SCERS), I am pleased to present the 2016 SCERS Investment Year in Review (the 'Report').

The purpose of the Report is to:

- Summarize the major events and developments in the investment program in the past year, including investment performance;
- Serve as a reminder of what has been accomplished over the year;
- Highlight the decisions that were made, the rationale for those decisions, and the direction going forward; and
- Preview the investment program's projects and objectives for the year to come.

Overall, it is hoped that this annual report on SCERS' investment program will be helpful for tracking SCERS' progress toward achieving its near-term and long-term investment objectives, and in particular, meeting the fundamental goal of providing the bulk of the funding for the benefits paid to SCERS' members.

In 2016, SCERS leveraged the expertise of its internal investment staff, investment consultants and key investment partners to continue to implement and refine the asset allocation structure in order to reduce risk, increase diversification and improve investment performance across economic environments. These efforts culminated in early 2017, with the approval of adjustments to the asset allocation model designed to provide a clearer view of risk and sources of return in SCERS' portfolio; greater understanding of how different economic environments will impact different segments of the portfolio; and increased diversification, particularly relative to the equity markets. These adjustments will produce a more risk-balanced portfolio with a similar expected return to the current portfolio, but with lower standard deviation and less susceptibility to substantial drawdowns in negative markets.

The primary focus of SCERS' investment team in 2017 will be on implementation of the new asset allocation model, and refinement and implementation of the new sub-asset class structure. These efforts are important because when the asset allocation structure is fully implemented the portfolio will be better positioned to deal with challenging investment environments.

The continued refinement of the investment portfolio reflects two important premises in SCERS' investment program: (1) Understanding and managing risk is an ongoing exercise; and (2) While it is critical to remain disciplined and true to SCERS' asset allocation model, the portfolio cannot remain static, but rather, it must have the capacity to adjust within the parameters of the allocation model based on the risk factors operating in the markets, including the status of the investment market cycle.

Global financial markets generated positive returns in calendar year 2016, but it was not a steady ride. There were several episodes of both negative and positive volatility driven by various macro-economic considerations and political events, which respectively punished and rewarded different asset classes, and resulted in divergence within asset classes. Ultimately, the volatility was relatively short-lived, and after a slow start, 2016 finished with positive returns across all asset classes, led by equities and real assets.

Reflective of this, in 2016 SCERS generated a gross total fund return of 8.0%, exceeding SCERS' current investment return assumption of 7.5%. This was a welcome change after two years of weak performance, however the three year return remains anemic at 4.1% per year. The five year return is better, at 8.4% per year, and over the long term, the investment performance remains strong, with a return of 8.2% per year for the last thirty years.

Looking to 2017, a somewhat more optimistic outlook for U.S. economic growth is being manifested in rising asset prices. At the same time, the growth picture in other parts of world is less optimistic and valuations are remaining high primarily due to monetary policy. The high valuations in many asset classes, combined with the possibility of the declining effectiveness of central bank actions and political disruptions provides uncertainty and increased risk in the financial markets.

Accordingly, going forward SCERS will remain focused on identifying ways in which risk can be reduced and value can be added to the investment program so that it continues to be the funding engine for the benefits SCERS provides.

Respectfully Submitted,

Richard Stensrud
Chief Executive Officer

# Staff, Consultants, and Strategic Partners

Under the California Constitution, the SCERS Board has the exclusive authority and fiduciary responsibility for the management of SCERS' investment program. In carrying out this duty, the SCERS Board establishes the strategic direction, asset allocation, return and risk parameters, and investment policies for the retirement system. The SCERS Board receives guidance in making these decisions from its internal staff of investment professionals (Investment Staff) and from expert investment consultants, all of whom also serve as fiduciaries with respect to the fund. SCERS' general investment consulting services are provided by Verus Advisory Services (Verus); Cliffwater LLC (Cliffwater) serves as lead consultant for the alternative asset classes; and The Townsend Group (Townsend) serves as lead consultant for the real estate asset class.

Given the complexities of managing a large, multi-asset class investment program, the SCERS Board has delegated substantial responsibility for the day-to-day oversight and management of the assets of the retirement system to the Investment Staff, who in turn, utilize and draw upon the investment expertise and resources of SCERS' investment consultants and key investment partners. SCERS believes that a strong, collaborative partnership between the Investment Staff, consultants and investment service providers not only assures the prudent oversight of the fund, but produces significant investment value over time in the form of higher returns, lower risk and lower costs.

The collaborative partnership between the Investment Staff, consultants and investment partners is grounded in the following principles:

Investment Staff focuses on and directly engages in those areas where it can add investment value;

- Consultants serve as an 'extension of staff' in those areas where they have greater expertise, capabilities and/or resources but the Investment Staff continues to be actively involved in any decisions involving such areas;
- Both Investment Staff and consultants are responsible for monitoring and overseeing the investment portfolio;
- Both Investment Staff and consultants are charged with developing ways to improve investment performance and manage risk;
- Strategic partnerships may be established with investment providers if they will (a) allow SCERS to develop an efficient, customized solution to an investment need; (b) allow SCERS to gain access to specialized investment knowledge or expertise; or (c) improve access to niche investment markets or strategies that will add value to the portfolio; and
- Overlapping expertise and capabilities of Investment Staff, consultants and strategic partners is beneficial because it brings multiple perspectives to the investment decision-making process.

Implicit in this approach is SCERS' belief that a strong internal Investment Staff is central to the successful execution of the investment program, in that the Investment Staff: (1) Serves as the 'hub' and coordinator of the activities of consultants and strategic partners; (2) Provides a source of analysis independent from those partners; (3) Allows SCERS to be a generator of investment ideas and not simply a passive recipient of investment ideas; (4) Facilitates investment solutions specific to SCERS' needs; and (5) Enables SCERS to capture and institutionalize knowledge and expertise.

The effectiveness of the collaborative partnership between SCERS' Investment Staff, consultants and strategic partners can be seen in the significant level of asset class construction/implementation activities and other investment program undertakings that occurred in 2016. It is also reflected in the adjustments to the asset allocation model approved at the end of 2016, which are designed to provide a clearer view of risk and sources of return in SCERS' portfolio; greater understanding of how different economic environments will impact different segments of the portfolio; and increased diversification, particularly relative to the equity markets. Overall, the adjustments to the asset allocation model will produce a more risk-balanced portfolio with a similar expected return as the current portfolio, but with lower standard deviation and less susceptibility to substantial drawdowns in negative markets. See pages 14 to 17 for a more detailed discussion of the asset allocation modifications.

Implementation of the new asset allocation model, and refinement and implementation of the new sub-asset class structure will be a major focus for the investment team in 2017. The investment team will also seek to:

- Create competition for investment allocations by comparing the relative value and risk/return profiles of assets and investment strategies;
- Identify opportunities to expand the reach, scope and resources of the investment program through strategic investment partnerships;
- Assess the status of the investment market cycle and position the portfolio accordingly; and
- Assure that the interests of investment managers are properly aligned with the interests of SCERS.

Given the central role that SCERS' Investment Staff plays in the investment program, and the central role that the investment program plays in funding the benefits SCERS provides, another important goal in 2017 will be to fully build out and maintain a high quality internal Investment Staff. To do so, SCERS must be able to attract and retain the highly qualified investment professionals needed to run SCERS' sophisticated investment program. This investment in SCERS' continued success will pay huge dividends to SCERS' stakeholders in the form of lower pension cost and greater retirement security.

Commentary on the ongoing development of SCERS' investment program from consultants Verus, Cliffwater and Townsend can be found in Appendix 1 to 3 of this Report.

# Portfolio Overview

## Summary Overview

For the calendar year ended December 31, 2016, the Sacramento County Employees' Retirement System ('SCERS') achieved an 8.0% gross return. As explained in more detail below, SCERS' return was slightly below the Policy Index return of 8.4%. Over the 3-year and 5-year periods, SCERS has returned 4.1% and 8.4% respectively, versus the Policy Index return of 5.0% and 8.4%.

## Market Overview

Global financial markets generated positive returns during 2016, and ended the year on a very strong note. The year was marked generally by market calm, however with several short-lived surges in volatility mixed in. A first spike in volatility occurred early in the first quarter, when global equity, credit and commodity markets had one of the worst starts in recent history on concerns over slowing global growth, tightening U.S. monetary policy, distress in the energy markets and an economic slowdown in China. However, a 'V-shaped' recovery quickly occurred in February and March that continued throughout much of the year. A second spike in volatility occurred in June, when the UK surprisingly voted to leave the European Union. The immediate aftermath of the 'Brexit' vote caused global equity markets to temporarily plunge, though they quickly rebounded once investors were able to digest that the ultimate ramifications of the vote were likely more political than financial, and would take several years to work out. A third spike in volatility occurred early in the fourth quarter around the U.S. presidential election. The initial sentiment toward Donald J. Trump winning the election pointed toward a drastic selloff in financial markets. However, global markets quickly reversed course as investors began to register the potential economic growth catalysts that possible Trump policies could have.

While global equity markets generated positive returns during 2016, there were meaningful divergences geographically and within styles. On the geographic front, U.S. equities and emerging markets equities significantly outperformed non-U.S. developed market equities, with the Russell 3000 and MSCI EM Indexes returning 12.7% and 11.2% respectively, versus the MSCI EAFE Index's return of 1.0%. Within styles, value stocks outperformed growth, and small capitalization stocks outperformed large capitalization stocks. Fixed income returns were mixed, trailing equities during the year. The Barclays Capital Aggregate returned 2.6%, while high yield corporate debt was the best performer at 17.1%, after a difficult 2015, and U.S. Treasuries lagged at 1.0%. U.S. Treasuries were negatively affected by rapidly rising interest rates that were experienced in the fourth quarter, subsequent to the U.S. presidential election. Commodity prices, as represented by the Bloomberg Commodity Index, had a strong year returning 11.8% off of reduced capital spending among U.S. shale producers and a collective cut in production output within OPEC, after being down 24.6% in 2015.

There were several surprising political outcomes in 2016, including the aforementioned Brexit vote and the Trump presidential election, as well as a vote against an Italian referendum on constitutional reform which led to its Prime Minister's resignation. These events demonstrated that there is a growing 'anti-establishment' political sentiment that is manifesting itself across many parts of the world. This has the potential to continue as a theme in 2017 with multiple elections scheduled to take place in Europe, including Germany, France and the Netherlands. Some might argue that these votes are partly in response to government policies that have defined the post global financial crisis ('GFC') environment since 2008, particularly those of central banks, which have been flooding global financial markets with liquidity through aggressive quantitative easing programs. There is sentiment that these central bank initiatives have likely reached their limits in terms of balance sheet expansion and effectiveness, and this could mark a gradual end to the era of quantitative easing, which has defined much of the past decade.

Within the U.S. in 2016, economic growth was relatively strong compared to other developed nations. The labor market is in solid shape and near full employment levels, with non-farm payrolls increasing at a healthy pace and unemployment ending the year at 4.7%. Consumer sentiment continued to rise in 2016 ending the year at 98.2, up from 92.0 to start the year and near a 13 year high, and consumer spending ended the year at 3.8%. The U.S. inflation rate accelerated for five consecutive months through December, to end the year increasing 2.1% on a year-over-year basis, which is around the Federal Reserve's ('Fed') target. Overall, U.S. GDP grew at an annual rate of 1.9% in the fourth quarter of 2016, and while it grew at 3.5% in the third quarter, GDP on average continues to come in below long term averages of over 3%.

While the Fed ended quantitative easing measures in late 2014, it has been slow to increase interest rates, especially during the first few quarters of 2016, due to uncertainty around global growth, and lack of confidence in the economic data. The Fed ended up raising rates only once in 2016, by 25 bps in December, but appeared to move toward a less dovish stance near the end of the year as sentiment around growth improved following the presidential election. There is an expectation that interest rates will rise in 2017, with most experts predicting approximately three Fed rate hikes. Other G7 developed economies are still instituting more accommodative monetary policies. In Japan, the Bank of Japan ('BOJ') maintained its bond buying program during the year and kept interest rates near zero. However, the BOJ's going forward policy could change, as a weaker yen and fiscal stimulus have fueled greater inflation expectations. In Europe, the European Central Bank ('ECB') extended its quantitative easing bond purchasing program, though it reduced the pace of purchases, while maintaining near zero interest rates like Japan. The UK re-instituted quantitative easing measures following the Brexit vote, and cut interest rates to their current levels of 0.25%.

Looking toward 2017, the Trump election combined with a Republican controlled Congress has changed investors' outlook for economic growth, particularly in the U.S., which is being reflected in rising asset prices. While many had anticipated a potential recession in the United States in the next year under a Clinton administration, the markets have priced in greater growth optimism around the Trump administration and its potentially growth friendly policies focused on tax reform, infrastructure spending and deregulation, even though there is little clarity on the likelihood and specifics around these initiatives, and the growth picture in other parts of the world is less optimistic. Valuations remain high across most asset classes, fueled by extended monetary policy driven low interest rates. However, while volatility remains near historic lows, there are plenty of areas of uncertainty going forward that could lead to spikes in volatility. These include the declining effectiveness of central bank actions, the future state of the EU following Brexit and upcoming elections across several prominent European nations, and capital outflows within the emerging markets, particularly China. This continues to call for a portfolio with sufficient levels of diversification, and a balance of portfolio exposures across multiple economic environments and risk factors.

## Portfolio Review and Considerations

SCERS last underwent an asset allocation study in 2011, which resulted in significant changes in SCERS' strategic asset allocation mix. An important objective of that asset allocation was to reduce risk by increasing diversification across asset classes, and maximizing risk-adjusted returns. SCERS' 2011 long-term asset allocation mix is outlined in **Table 1**.

The 2011 asset allocation structure featured a number of changes from its predecessor, and the primary focus over the past several years has been implementing these changes within each asset class. However, this is a multi-year process to fully execute, especially within the Private Equity and Real Assets asset classes, given the unique cash flow characteristics of these segments and the importance of maintaining vintage year diversification. While significant progress has been made, it is anticipated that full implementation will require a few more years to reach the target allocation levels.

The progress in investing and moving SCERS' physical portfolio closer to the 2011 target allocations is displayed in **Table 1,** which compares the actual physical asset allocation as of the end of 2016 to the target asset allocation. Please note that while an asset class is being built out, SCERS utilizes the Overlay Program managed by State Street Global Advisors ("SSGA") in order to bring SCERS' portfolio in line with its target asset allocation. The Overlay Program also serves as a tool to rebalance asset class exposures back to target weights, once fully built out. The Overlay Program uses proxies to replicate exposures within each asset class, and is particularly effective in rebalancing public market assets due to the low tracking error of the underlying proxies compared to public market managers. On the other hand, the Overlay Program is not as effective in replicating alternative asset exposure because it is limited to the use of public market proxies, which can create basis risk to the return and risk characteristics of the underlying asset class.

**Table 1 - SCERS' Actual Asset Allocation Versus Target Policy Allocation**

| Asset Class | Actual Allocation | Target Policy Allocation | Variance |
|---|---|---|---|
| Domestic Equity | 23.4% | 22.5% | 0.9% |
| International Equity* | 17.2% | 22.5% | -5.3% |
| Fixed Income | 18.5% | 20.0% | -1.5% |
| Absolute Return | 8.8% | 10.0% | -1.2% |
| Private Equity | 7.4% | 10.0% | -2.6% |
| Real Assets | 9.3% | 15.0% | -5.7% |
| Opportunities | 2.2% | 0.0% | 2.2% |
| Overlay Program | 6.1% | 0.0% | 6.1% |
| Cash** | 7.1% | 0.0% | 7.1% |

* There is an additional 4.4% allocation for the International Equity asset class that is temporarily held in SCERS' Overlay Program as passive exposure in the form of total return swaps

** Approximately 4.2% of cash balance is reserved to fund a new international equity mandate

Overall, SCERS continues to make good progress toward reaching the current target allocations, especially within the private market segments of the portfolio. Successful implementation of the asset allocation is contingent on selecting and maintaining allocations to investment strategies and managers that will outperform their respective benchmarks. Staff and SCERS' investment consultants, Verus Advisory, Cliffwater and The Townsend Group ('Consultants') believe that SCERS is on the right path to accomplishing this in aggregate with the investments that SCERS has made over the past several years, including those made in 2016.

While financial markets continue to reach new highs, there are increasing risks in the global economy and financial markets. Therefore, while it is important to stay invested in assets that fully participate in broad market tailwinds, Staff and Consultants continue to have an eye toward maintaining diversification across a variety of investment types. This includes an emphasis on investments with contractual yield, consistency in the cash flows, and lower correlation to the broader economy. Examples of these types of investments that have been made in SCERS' portfolio include core infrastructure with contracted cash flows; or direct lending opportunities that are backed by heavily collateralized assets and that include contracted yields; sector and/or geographic specific private markets funds that invest in segments where the investment manager has differentiated expertise to manage a cycle, and has less correlated revenue streams to the broader economy; and long/short investment strategies that have low or negative correlation to the broader equity markets.

## 2016 Asset Allocation Study

While SCERS continues to implement the 2011 asset allocation, it had been five years since SCERS' last asset allocation study, so during 2016 SCERS embarked on a new study. Since the last asset allocation study introduced significant changes to SCERS' strategic asset allocation at the asset class level, and also in the structuring of individual asset classes, it was expected that the 2016 asset allocation study would build upon the prior one, especially as it related to reducing risk by increasing diversification, but with a greater focus on reducing the range of outcomes the portfolio is potentially subjected to, especially in stressed market environments.

SCERS' Board approved the new asset allocation in January 2017, which is shown in **Table 2**. It includes a comparison of the new allocation to SCERS' current target asset allocation (from the 2011 study), with both presented in a functional asset class framework.

**Table 2 - SCERS' New Target Policy Allocation**

| Asset Class | Current Policy Allocation | New Policy Allocation | Changes |
|---|---|---|---|
| **Growth** | **63.0%** | **59.0%** | **-4.0%** |
| Public Equities | 45.0% | 41.0% | -4.0% |
| Private Equity | 10.0% | 9.0% | -1.0% |
| Public Credit | 2.0% | 2.0% | 0.0% |
| Private Credit | 0.0% | 4.0% | 4.0% |
| Growth Oriented Absolute Return | 6.0% | 3.0% | -3.0% |
| **Diversifying** | **22.0%** | **25.0%** | **3.0%** |
| Core/Core Plux Fixed Income | 15.0% | 10.0% | -5.0% |
| U.S. Treasury | 0.0% | 5.0% | 5.0% |
| Global Fixed Income | 3.0% | 3.0% | 0.0% |
| Diversifying Absolute Return | 4.0% | 7.0% | 3.0% |
| **Real Return** | **15.0%** | **16.0%** | **1.0%** |
| Real Estate | 7.0% | 7.0% | 0.0% |
| Private Real Assets | 6.0% | 7.0% | 1.0% |
| Commodities | 2.0% | 2.0% | 0.0% |
| **Opportunities** | **0.0%** | **0.0%** | **0.0%** |

This last feature, the functional asset class framework, is one of the more significant changes that came out of the 2016 asset allocation study, and represents both the method by which the asset allocation is presented, and how SCERS defines and explains the asset allocation structure.

Within the functional asset class framework, segments of SCERS' policy asset allocation were re-grouped and re-classified by linking asset classes that are exposed to similar economic environments and risk factors, and which would be expected to have similar roles and outcomes in the portfolio. At the highest level, this approach provides a clearer view of risk and sources of return within the portfolio, and in which environments SCERS would expect segments of the portfolio to outperform or underperform. The regrouping blends traditional and alternative asset classes, and relabels exposures at the asset category level. The functional framework reflects a simplified approach at the functional asset category level, by breaking the portfolio into three segments, with greater complexity reserved at the underlying asset class level. The simplified functional asset categories are: (1) Growth; (2) Diversifying; and (3) Real Return. In sum, going forward SCERS will view the portfolio at the highest level in a functional and outcome based framework, through the asset categories, with conventional asset classes underlying these asset categories.

The Growth asset category includes the following asset classes: (1) Public equities; (2) Private equity; (3) Public credit (high yield credit); (4) Private credit; and (5) Growth oriented absolute return. These asset classes are primarily exposed to the equity risk factor, as well as the credit risk factor, and tend to perform best in a high growth and low/moderate inflationary environment. In contrast, these asset classes tend to perform poorly during recessionary periods, when GDP growth is contracting, or during certain periods when unexpected inflation arises. Growth assets typically comprise the dominant allocation within most institutional investment portfolios.

The Diversifying asset category includes (1) Core/core plus fixed income; (2) U.S. Treasuries; (3) Global fixed income; and (4) Diversifying absolute return. This asset category is expected to protect capital during dislocated market environments, and the underlying asset classes are expected to generally perform better than the growth asset classes of SCERS' portfolio, such as public equities, when broad financial markets experience distress. This could include having a positive profile when growth markets are negative, or at a minimum, experiencing significantly less muted downside returns. Diversifying assets can still experience periods of negative returns, however, they are expected to have a positive return profile over longer periods of time.

The Real Return asset category includes: (1) Real estate; (2) Private real assets; and (3) Commodities. The asset category addresses a combination of objectives for SCERS' overall portfolio, including: (1) Inflation hedge; (2) Moderate generator of cash flows; and (3) Diversifier to other segments of the portfolio.

The key changes to SCERS' asset allocation include:

<u>Growth:</u>

- Reduced overall allocation to Growth from 63% to 59%
  - Public equities decrease from 45% to 41%
  - Private equity decreases from 10% to 9%
  - A dedicated 4% allocation to private credit was added
  - Public credit (high yield bonds) remains at a 2% allocation
  - Growth-oriented absolute return decreases from 6% to 3%

Diversifying:

- Increased overall allocation to Diversifying from 22% to 25%
  - Traditional fixed income remains at a 15% allocation
    - » Core/core plus fixed income decreases from 15% to 10%
    - » A dedicated 5% allocation to U.S. Treasuries was added
    - » Global fixed income remains at a 3% allocation
  - Diversifying absolute return increases from 4% to 7%

Real Return:

- Increased overall allocation to Real Return from 15% to 16%
  - Private real assets increases from 6% to 7%
  - Real estate remains at a 7% allocation
  - Commodities remains at a 2% allocation

Opportunities:

- Remains at a 0% target allocation with a range between 0% and 5%

Several plan objectives were identified by the SCERS Board during the asset allocation study including: (1) Minimizing deterioration in SCERS' funded ratio and ensuring the sustainability of SCERS' plan; (2) Increasing investment portfolio diversification by maintaining a portfolio that performs better across different economic environments and risk factors; (3) Reducing loss of capital during down markets; and (4) Improving investment cash flows to meet increasing benefit payment obligations.

The new approved asset allocation moves SCERS further toward achieving these objectives. It is a more risk balanced portfolio than the current policy portfolio with a similar expected return profile. It has a lower standard deviation, and narrower range of potential outcomes, making it less susceptible to negative returns during down markets. It also increases diversification, especially to investment strategies with low and negative correlations to equity markets. In addition, it has the potential to produce greater cash flows for SCERS' plan with a dedicated private credit allocation and an increased allocation to private real assets, which is important in an environment where cash flows are necessary to meet increasing benefit payment obligations.

The new asset allocation is not a dramatic divergence from SCERS' current asset allocation, but rather is more of an evolution in meeting SCERS' broad plan objectives. While it takes a different approach in viewing the portfolio at the highest level, through functional asset categories, the types of investments that will be targeted upon implementation are fairly similar to the implementation path that the current asset allocation has taken over the past several years.

With the new asset allocation having been approved by the SCERS Board, several subsequent steps will be taken during 2017. These include: (1) The creation of an implementation plan with a timeline for executing the new asset allocation; (2) The development of a revised broad investment policy statement ('IPS') that covers SCERS' stated objectives, investment philosophy, asset categories and governance structure; (3) The development and revision of individual asset class structures and IPS for individual asset classes; and (4) The evaluation and reformulation of benchmarks at the policy index and asset class levels.

## Portfolio Performance and Attribution

Given the continuing implementation of the asset allocation model, SCERS utilizes two different benchmarks when assessing performance of the total portfolio. The Allocation Index reflects the passive market performance for the SCERS portfolio as it currently stands. The Policy Index reflects the passive market performance for the SCERS portfolio if it was fully implemented at the asset allocation target levels. When full implementation of the current asset allocation model (and now the new asset allocation model) is complete, the Allocation Index and the Policy Index will be the same.

For 2016, SCERS generated a total gross fund return of 8.0%, which underperformed the Policy Index return of 8.4%, by 0.4%. The Allocation Index returned 8.0%, in-line with SCERS' return. SCERS' total gross fund return ex-Overlay was 7.5%, so the Overlay Program added value during the year, particularly with the strong 10.7% return of the Real Assets proxy.

SCERS' asset classes demonstrated mixed results relative to their respective benchmarks. Asset classes that exceeded their benchmarks included Fixed Income by 2.2%, Real Assets (excluding the SSGA Real Assets Strategy proxy) by 2.8% and Opportunities by 4.1%. Asset classes that trailed their respective benchmarks included Domestic Equity by 1.0%, International Equity by 1.2%, Absolute Return by 2.4% and Private Equity by 8.6%. Please recall that these are time weighted returns as calculated by Verus, and the performance of the Private Equity, Real Assets and Opportunities asset classes are better reflected through an IRR calculation, which accounts for asset inflows and outflows. The performance results of these segments in the asset class sections of this report utilize an IRR calculation, as calculated by Cliffwater and Townsend.

Over longer measurement periods, SCERS' Staff and Consultants have been implementing and building the investment program around the current asset allocation study, which has involved deploying meaningful amounts of capital into new asset classes, in particular the private markets. While significant progress has been made and performance results are beginning to show, full performance benefits will not be fully achieved until SCERS is farther through the 'J-curve'. Over the 3-year and 5-year periods, SCERS has generated gross returns of 4.1% and 8.4%, respectively. The 3-year figure trails the Policy Index return of 5.0%, and was impacted on an absolute basis by muted returns in 2014 and 2015. However, the 5-year return is in-line with SCERS' Policy Index return of 8.4%, and exceeds SCERS' actuarial return assumption of 7.5%. Since inception (as of June 1986), SCERS' portfolio has generated a gross return of 8.2%, which also exceeds SCERS' current actuarial return assumption of 7.5%.

SCERS' investment results (as calculated by Verus) are summarized in **Table 3**.

## Table 3 - Investment Results

| | For the Period Ended December 31, 2016 | Annualized | |
|---|---|---|---|
| | 1 Year | 3 Years | 5 Years |
| Domestic Equity | | | |
| Total Domestic Equity | 11.7% | 7.9% | 14.5% |
| Benchmark: Russell 3000 Index | 12.7 | 8.4 | 14.7 |
| InvestorForce All DB US Eq Gross Median | 12.7 | 8.0 | 14.4 |
| International Equity | | | |
| Total International Equity | 3.8 | -1.4 | 5.9 |
| Benchmark: MSCI ACWI ex-US Index | 5.0 | -1.3 | 5.5 |
| InvestorForce All DB ex-US Eq Gross Median | 4.1 | -1.0 | 6.4 |
| Fixed Income | | | |
| Total Fixed Income | 6.0 | 3.4 | 3.4 |
| Benchmark: Custom* | 3.8 | 2.5 | 1.9 |
| InvestorForce All DB Total Fix Inc Gross Median | 5.2 | 3.2 | 3.4 |
| Absolute Return | | | |
| Total Absolute Return | 2.9 | 1.6 | 5.3 |
| Benchmark: 91 day Treasury Bill + 5% | 5.3 | 5.1 | 5.1 |
| HFRI Fund of Funds Composite Index | 0.5 | 1.2 | 3.4 |
| InvestorForce All DB Hedge Funds Gross Median | 2.5 | 1.9 | 4.9 |
| Private Equity | | | |
| Total Private Equity** | 9.3 | 11.7 | 10.7 |
| Benchmark: Russell 1000 + 3% 1 Quarter Lag | 17.9 | 13.6 | 19.3 |
| Thomson Reuters C/A All PE 1 Quarter Lag | 6.6 | 10.8 | 13.0 |
| InvestorForce All DB Private Eq Net Median | 7.6 | 9.6 | 10.5 |
| Real Assets | | | |
| Total Real Assets** (excluding SSgA Overlay Proxy) | 10.8 | 3.7 | 4.8 |
| Total Real Assets** (including SSgA Overlay Proxy) | 11.3 | 4.4 | 5.4 |
| Benchmark: CPI-U Headline + 5% | 7.1 | 5.8 | 6.0 |
| Opportunities | | | |
| Total Opportunities** | 12.5 | 16.1 | 17.7 |
| Benchmark: Policy Index | 8.4 | 5.0 | 8.4 |
| Total Fund | | | |
| SCERS Total Fund - Gross | 8.0 | 4.1 | 8.4 |
| SCERS Total Fund - Net | 7.7 | 3.8 | 8.1 |
| Benchmark: Policy Index*** | 8.4 | 5.0 | 8.4 |
| InvestorForce Public DB > $1B Gross Median | 7.9% | 4.6% | 8.5% |

Notes: Unless noted, returns were prepared by SCERS investment consultant, and shown on a gross of fee basis and included the overlay effect. Return calculations were prepared using a time weighted rate of return.

*The Benchmark consists of 75% Barclays Aggregate, 12% Citi WGBI, 5% BofA Merril Lynch US HY Master II, 5% Credit Suisse Leveraged Loans and 3% JPMorgan GBI EM Diversified.

** Investment return and index return are one quarter in arrears.

*** The Benchmark consists of 22.5% Russell 3000, 22.5% MSCI ACWI ex U.S., 20% Fixed Income Custom, 10% T-Bill plus 5%, 10% Russell 1000 plus 3% and 15% CPI-U Headline plus 5%. From 1/1/2012 to 12/31/13, the Benchmark consisted of 22.5% Russell 3000, 22.5% ACWI ex U.S., 20% Barclays Aggregate, 10% T-Bill plus 5%, 10% Russell 1000 plus 3% 1Q Lag and 15% CPI-U Headline plus 5%.

# Asset Classes

## U.S. Equity Market Overview

2016 was a strong year for U.S. equity markets, and it was one of the best performing asset classes. However, the first half of the year felt very different than the second half. During the first half, volatility spiked early on due to fears of a global economic growth slowdown, crude oil prices falling below $30 per barrel, a sharp devaluation of China's currency, the Chinese renminbi ('RMB'), and more conservative expectations from the Fed around interest rate hikes during the year. During this period, investors gravitated toward the defensive market sectors and quality names with higher yields. The second half of the year saw the U.S. equity markets rally significantly off of improving economic growth figures, including strong U.S. employment data, with a rotation toward lower valued cyclical names. This momentum really picked up subsequent to the election of Donald Trump as president of the United States.

For the year, the S&P 500 returned 12.0%. Within the U.S. equity markets, there was significant divergence between investment styles and market capitalizations. With respect to investment style, value stocks meaningfully outperformed growth stocks (Russell 1000 Value Index returned 17.3% versus a 7.1% return for the Russell 1000 Growth Index), which was a reversal from prior years. Investors gravitated toward cyclical stocks with depressed valuations in the financial, energy and industrial sectors, rotating out of the higher yielding defensive sectors that the markets had been favoring in 2015 and early 2016, such as telecom services, utilities and consumer staples. With respect to market capitalization, investors gravitated toward smaller capitalization companies over larger capitalization ones, also a reversal from the prior year. The small capitalization Russell 2000 Index returned 21.3% versus a 12.1% return for the large capitalization Russell 1000 Index.

Corporate earnings were weak during the first part of the year, but rebounded in the third and fourth quarters of 2016. Beaten down sectors such as financials and energy saw the greatest rise in corporate earnings (off of low levels), and also benefited from valuation increases. On the valuation front, the S&P 500 forward price to earnings ('P/E') ratio ended at 17.4, which is high relative to the 25 year average forward P/E of 15.0. Stocks already appear to have priced in the potential effects of tax reform and deregulation from the new administration, which could leave less upside in U.S. equities relative to other parts of the world. Inflation has picked up which has been a benefit to equities early on. However, a greater risk is if inflation overshoots expectations and targets.

## Domestic Equity Portfolio

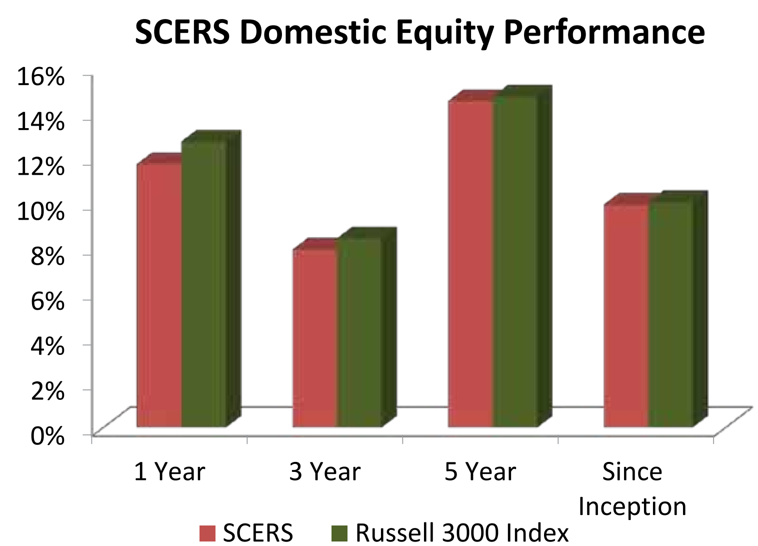
SCERS' Domestic Equity portfolio is structured with a combination of large cap and small cap exposure, as well as active and passive mandates. A large cap passive allocation makes up over 50% of the Domestic Equity portfolio, which is complemented by a meaningful allocation to a group of active large cap managers who run concentrated, high conviction, benchmark agnostic and higher tracking error mandates. The Domestic Equity small cap portfolio is comprised of active mandates. Domestic REITs also fall within SCERS' Domestic Equity portfolio. SCERS' Domestic Equity portfolio maintains neutral style risk, with roughly equal allocations between growth and value.

The objective of the structure is to allocate on an active basis to those sub-asset classes that are less efficient, and to managers that SCERS believes are better capable of earning excess returns, while using a passive allocation in those segments that are more efficient, and where active returns are more difficult to generate. Utilizing a higher passive equity component also reduces aggregate management fees and tracking error risk

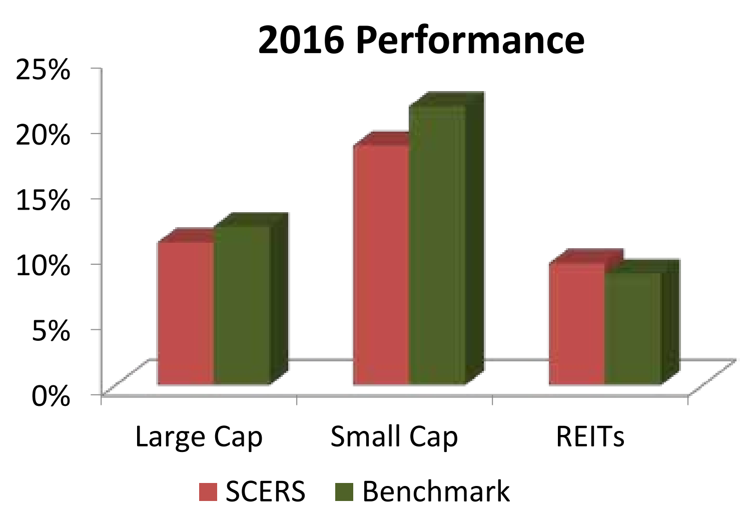
## 2016 ACTIVITY

- Oversaw, monitored and met with SCERS' existing Domestic Equity managers

## PERFORMANCE AND ATTRIBUTION




SCERS' Domestic Equity portfolio generated strong absolute returns of 11.7% during 2016, as U.S. equities was one of the strongest performing asset classes. However, the Domestic Equity portfolio underperformed the U.S. equity benchmark, Russell 3000 Index, return of 12.7% by 1.0%. Over longer time periods, the Domestic Equity portfolio is generating returns below the benchmark.



Looking closer at Domestic Equity returns for the year, SCERS' U.S. large cap portfolio returned 10.9% and underperformed the Russell 1000 Index benchmark return of 12.1%. SCERS' U.S. small cap portfolio also underperformed, returning 18.3% versus the Russell 2000 Index return of 21.3%. SCERS' domestic REIT exposure, whose benchmark is not part of SCERS' broad Domestic Equity benchmark, generated a return of 9.3% during the year, outperforming its benchmark return.

2016 was a poor year for active management, as all but two of SCERS' nine active Domestic Equity managers underperformed their respective benchmarks. Underperformance occurred across styles and capitalization which is unusual, however, given that the U.S. equity markets had such polarizing catalysts between the first and second halves of the year, the results are more understandable. Quality managers tended to do well early on when markets were volatile, but significantly underperformed later in the year when the markets rotated toward more value oriented cyclical names. Deeper value managers benefited later in the year, but were unable to overcome falling behind earlier in the year. Two of SCERS' active large cap managers underperformed significantly during the year, to add to an already poor long-term track record. These two managers in particular will require further evaluation.

## 2017 Goals

- Evaluate and implement the Domestic Equity asset class to reflect SCERS' new asset allocation
    - Develop an implementation plan to reduce total exposure by 1.5%
    - Evaluate: (1) The various strategy, style and capitalization weights; (2) The mix between passive and active exposure; (3) The approach to active management; (4) The number of investment managers; and (6) The current Domestic Equity benchmarks
    - Evaluate the role that REITs have in the Domestic Equity structure
- Oversee, monitor and meet with SCERS' Domestic Equity managers

# International Equity

## Market Overview

International equity markets experienced a roller coaster of a year, with a downward correction in the first quarter due to concerns over China's economic slowdown and general weak global economic growth. At mid-year, the UK referendum to exit the European Union shocked the market, causing a dramatic selloff in global equities, particularly within the UK market, though most global equity markets rebounded quickly. In addition, around the same time, the U.S. Department of Justice obtained a $14 billion mortgage-abuse settlement from Deutsche Bank. This caused the market to fret about further systematic risk in the European banking system, and subsequently a rotation out of financial stocks. However, subsequent monetary easing by the European Central Bank, the Bank of England, as well as the U.S. Fed delaying a rate increase, contributed to a third-quarter equity rally that extended into the fourth quarter following the U.S. presidential election.

Despite a strong U.S. dollar, the international equity markets were decidedly up in 2016 compared to 2015, but still significantly trailed U.S. equity returns. The positive performance in international equities was due to the run up in commodity prices and the extension of monetary policies in the UK, Europe, and Japan. For the year, international developed markets returned 4.5%, as measured by the MSCI ACWI ex-U.S. Index, compared to -5.3% reported in 2015. A contributor to the positive returns was the Canadian market, which experienced a complete reversal from its -24.7% return in 2015 to record a 25.4% return in 2016, due to the rally in oil and commodity prices in the latter half of 2016.

Within developed markets, the MSCI EAFE index returned a muted 1.0% in U.S. dollars, as a strong U.S. dollar negatively impacted returns, as well as economic and political concerns in Europe. In local terms, the index was up 5.3%, still below U.S. equity returns. Emerging market returns saw a significant improvement over 2015, generating an 11.2% U.S. dollar return (9.7% in local terms), as measured by the MSCI EM Index, a reversal from the -14.9% achieved in 2015. A significant gainer was the Latin America market, which returned 30.3% in 2016 compared to -31.1% generated in 2015. Oil and commodity-exporting countries like Brazil (66.1% return) and Russia (57.0% return) benefited from the rally in oil and commodity prices.

While growth expectations have improved in the U.S. following the presidential election, macro and geopolitical uncertainty remains globally. U.S. interest rate hikes, which could lead to an even stronger U.S. dollar, have the potential to weigh on global economies and in particular, the emerging markets. Trump's protectionist rhetoric and trade related policy initiatives are sending chills throughout the major U.S. trade nations. This has been playing out especially in Mexico, with the Mexican peso's dramatic devaluation against the U.S. dollar, as Trump seeks to repeal the NAFTA trade agreement. Heading into 2017, expected headlines will be on U.S. trade policies, global monetary actions, and China's uncertain economy, with investors' sentiment of risk shifting accordingly.

## International Equity Portfolio

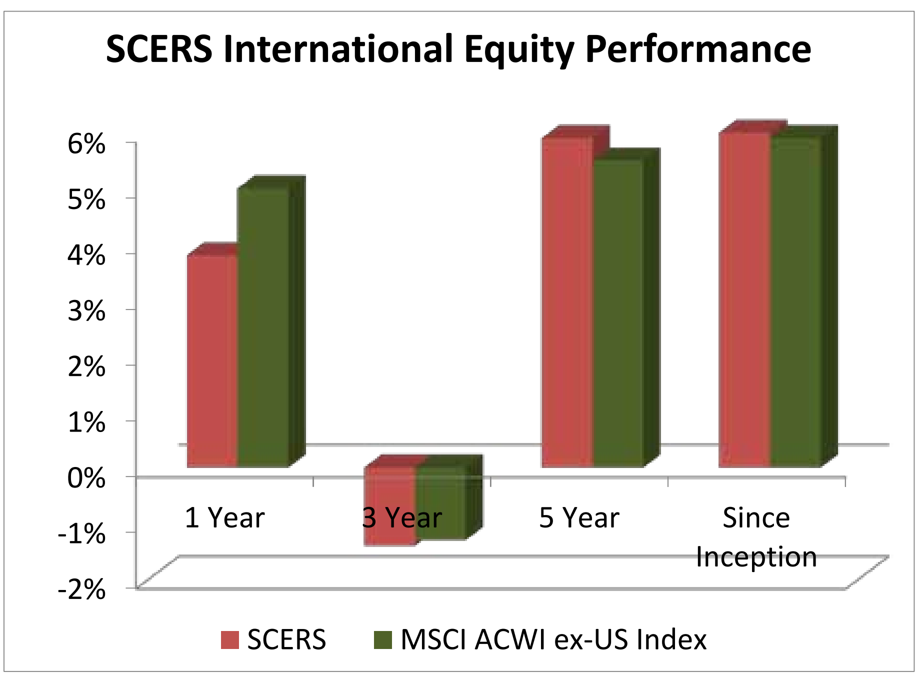
SCERS' International Equity portfolio comprises a mix of developed and emerging markets, with a balance between large capitalization and small capitalization equity strategies. Large cap developed markets represent the majority of SCERS' international equity portfolio. Also included in the international equity portfolio is a small allocation to international REITs. Similar to SCERS' Domestic Equity portfolio, the International Equity portfolio is neutral to investment style risk, with an equal weight to growth and value investment strategies.

Unlike SCERS' Domestic Equity portfolio, however, the International Equity portfolio is solely managed by active managers. Stock selection inefficiencies within international and emerging markets, as well as varying exposures geographically, can create greater opportunities for active managers to outperform their respective benchmarks. Investing in global equity markets introduces greater complexities when factoring in regions, countries and currencies, so incorporating a greater degree of flexibility into investment manager mandates is an important component of SCERS' International Equity portfolio.

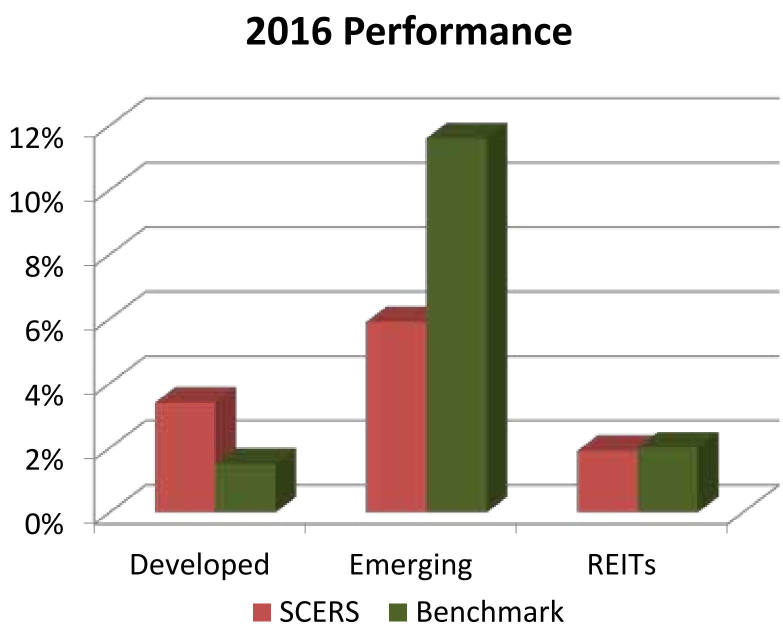
## 2016 ACTIVITY

- Terminated SCERS' all-cap emerging markets manager
  - Conducted a replacement search and hired two new all-cap emerging markets managers
- Conducted a replacement search and hired an international large cap developed manager
- Oversaw, monitored and met with SCERS' existing International Equity managers

## PERFORMANCE AND ATTRIBUTION



SCERS' International Equity portfolio generated a positive return for 2016 on an absolute basis, but underperformed on a relative basis, returning 3.8% versus the MSCI ACWI ex-US Index return of 5.0%. Over longer reporting periods, SCERS' International Equity portfolio has slightly outperformed the benchmark.




After outperforming on a relative basis in 2015, SCERS active international equity managers in aggregate struggled on a relative basis in 2016. At a high level, SCERS' international developed markets equity managers returned 3.4% for the year, outperforming the broad MSCI EAFE Index return of 1.5%. However, when comparing performance against manager specific benchmarks, nearly all of SCERS' international developed managers underperformed, with the exception of LSV Asset Management, a deep value large cap manager. Deep value was a strong performing style, whereas quality growth and value strategies tended to struggle, the latter two being strategies which many of SCERS' international equity managers deploy.

SCERS' emerging markets equity managers returned 5.9%, significantly underperforming the MSCI Emerging Markets Index benchmark return of 11.6%. A key detractor from the aggregate emerging markets performance was SCERS' dedicated allocation to EM small cap, which as a sub-asset class returned 2.6% versus the broader MSCI EM Index return of 11.6%, and SCERS' two EM small cap active managers underperformed their benchmarks as well.

SCERS' International REIT manager slightly underperformed against its benchmark, returning 1.9% versus 2.0%. However, over the longer reporting periods, this manager has outperformed against the benchmark.

## 2017 Goals

- Evaluate and implement the International Equity asset class to reflect SCERS' new asset allocation
  - Develop an implementation plan to reduce total exposure by 2.5%
  - Evaluate: (1) The various strategy, style and capitalization weights; (2) The level of active management exposure; (3) The number of investment managers; and (4) The current International Equity benchmarks
  - Evaluate the role that REITs have in the International Equity structure
- Oversee, monitor and meet with SCERS' International Equity managers

# Fixed Income

## Market Overview

The fixed income market felt the push and pull from central bank policies and geopolitical events, with the first half of the year experiencing declining bond yields, while the second half experienced a reversal of fortunes. The economic uncertainties to start 2016 influenced investors to flood into the safety of government bonds, driving yields down and prices up. However, global events in the latter half of the year swiftly redirected yields upward. Touching off the increase in yields, and conversely a selloff in bond prices, was sentiment that accommodative central bank monetary policy was reaching its limits and effectiveness, which led to sentiment that future stimulus must now come from fiscal policies rather than monetary policies. A significant catalyst for the increase in rates was the U.S. presidential election of Donald Trump, whose potential growth friendly policies around tax reform, infrastructure spending and de-regulation caused interest rates to skyrocket toward the end of the year. This, along with better economic data, gave the U.S. Fed the confidence to raise the fed funds rate by 25 bps in December, with several more rate increases expected in 2017. Overall, long-date U.S. Treasuries returned 1.0%, with the yield on the 10-year Treasury ending at 2.44%, up from 2.22% to end 2015. Municipal bonds returned 0.3%.

While global macro events muted U.S. Treasury returns during the year, the opposite effect occurred in the credit markets, particularly in high yield, leveraged loans, and investment grade corporate debt, which returned 17.5%, 9.9% and 6.1%, respectively. The credit markets rallied during the second and third quarters off of better economic growth, a rebound in energy prices and a search for yield in a low interest rate environment, and added additional gains in the fourth quarter following the U.S. presidential election and the potential growth tailwinds from the 'Trump Bump'. Lower quality credits (CCC rated) performed particularly well, off of very poor performance in 2015. EM debt also generated strong 10.2% returns during the year. However, there are growing signs that the credit markets are entering the later stages of the credit cycle, with corporate debt exceeding peak 2007 levels, decreasing corporate profit margins, the U.S. Treasury yield curve at is flattest since 2007, rising default rates and increasing spread compression.

Uncertainty surrounding President Trump's policy actions and protectionist rhetoric would seemingly raise market risk. However, the investor fear gauge as measured by the volatility (VIX) Index is at its lowest level since before the GFC, contrary to what seems a logical reaction to uncertainty. This seems to point toward complacency in the marketplace. In this macroeconomic environment, some fixed income sub-sectors will prevail, while others may suffer. Looking ahead, the outcome of future geopolitical events may have more of a bearing on fixed income performance rather than economic fundamentals.

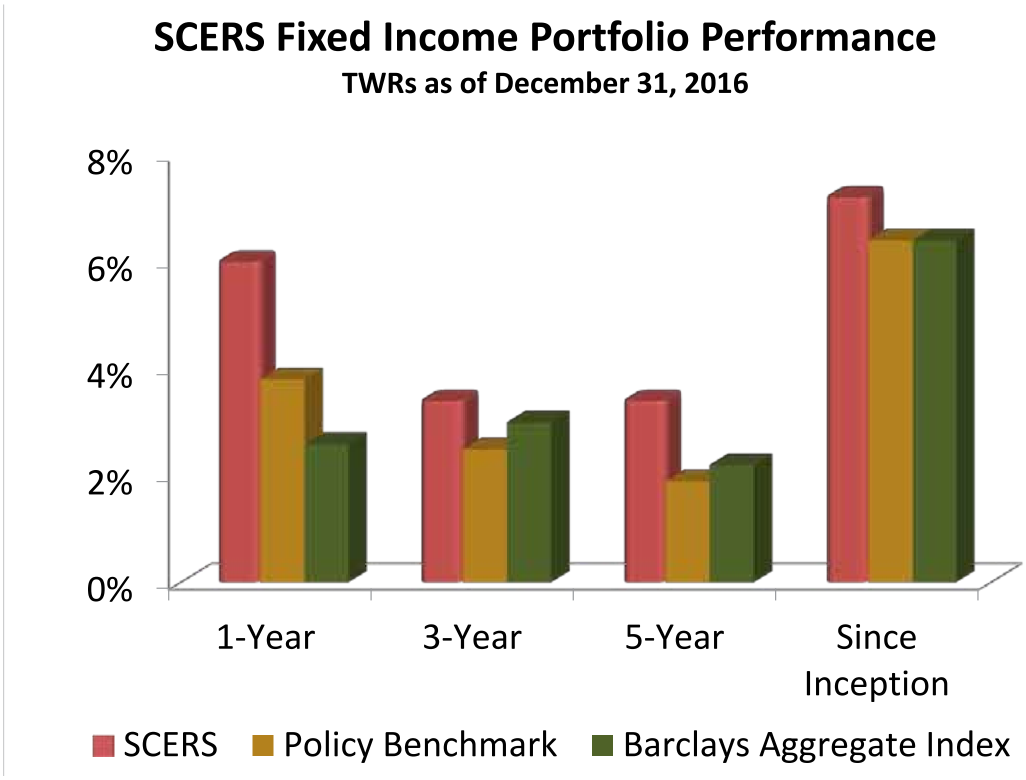
## Fixed Income Portfolio

SCERS' Fixed Income portfolio was restructured several years ago to add dedicated credit and global fixed income allocations to complement SCERS' existing core and core plus fixed income exposure. The core and core plus allocations, as well as the global allocation, are considered diversifying strategies, with ample exposure to government bonds and higher quality investment grade corporate bonds, while the dedicated credit mandate is more of a return seeking strategy, with significant exposure to the high yield credit markets. The monitoring and evaluation of SCERS' fixed income investment structure continued in 2016.

## 2016 ACTIVITY

- Oversaw, monitored and met with SCERS' Fixed Income managers

## PERFORMANCE AND ATTRIBUTION




During 2016, SCERS' fixed income portfolio performed well on an absolute basis and outperformed on a relative basis. The fixed income portfolio returned 6.0% for the year compared to SCERS' custom benchmark return of 3.8%, and against the Barclays Aggregate Index of 2.6%. Leading the way was SCERS' dedicated credit strategy, which generated a 23.1% return for the year compared to its benchmark return of 13.6%, after struggling in 2015. This is an opportunistic credit strategy that invests among a wide range of global credits, and it benefitted from the rally in high yield bonds and particularly its higher allocation to lower rated CCC credits. SCERS' core and core plus managers, and its global fixed income manager also outperformed their respective benchmarks.

## 2017 Goals

- Re-structure and implement the Fixed Income portfolio to reflect SCERS' new asset allocation
  - Total allocation remains at 20%, but will separate the dedicated credit strategy (component of the Growth asset category) from the core/core plus and global strategies (component of the Diversifying asset category)
    - » Reduce core/core plus from 15% to 10%
    - » Add dedicated 5% U.S. Treasury allocation
  - Evaluate SCERS' current benchmarks for Fixed Income
  - Revise the investment policy statement for Fixed Income
- Oversee, monitor, and meet with SCERS' Fixed Income managers

## Market Overview

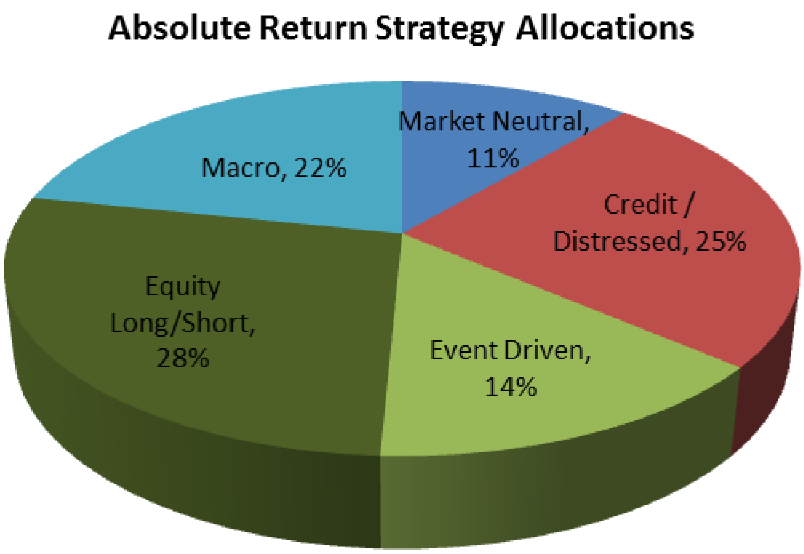
Absolute return performance was mostly up for 2016, but less than global equity market returns. Like other asset classes, it was a tail of two halves. After generating negative performance during the first quarter of 2016, performance picked up significantly during the second half of the year, driven by a rebound in sectors and strategies that had performed poorly in 2015 and early in 2016. Overall, there was meaningful diversion among absolute return strategies, and managers in particular. This latter point is demonstrated by the varying returns for the HFRI Fund Weighted Index and the HFRI Fund of Fund Composite Index, which returned 5.6% and 0.7%, respectively.

At the strategy level, equity long/short returned 5.5% for the year, but with a wide dispersion among managers. Those that were able to rotate away from growth and toward value names in economically sensitive sectors, and who were able to increase gross and net exposure during the year, outperformed those that didn't. Equity market neutral managers generated more muted returns of 1.6% during the year. Corporate Credit returned 11.7% and distressed/restructuring funds returned 13.4%. Managers benefitted by holding exposure to lower rated credits (CCC's), in addition to energy related credits, which was a dramatic reversal from what drove markets in 2015. Those managers with a longer bias tended to outperform long/short credit managers. Idiosyncratic distressed investments also performed well, and structured credit funds lagged corporate credit funds. Event driven funds had a strong year, returning 10.2% in aggregate. Within event driven, several segments performed well, including distressed credit, activist equity and merger arbitrage, the latter off of robust corporate M&A activity. Relative value funds in aggregate returned 7.8% in 2016, with fixed income and convertible arbitrage strategies performing well. The worst performing segment was global macro, which returned 1.5%. Global macro discretionary strategies, which returned 0.9%, struggled for much of the year, but ended the year on a strong note by being long the U.S. dollar, particularly against the euro, and short U.S. rates following the U.S. presidential election. Systematic macro, which returned -1.3%, got off to a good start but struggled in in the latter quarters of 2016 due to a lack of sustained trends in several markets, particularly commodities. Pure trend following systematic macro strategies underperformed more diversified systematic macro strategies. The multi-strategy segment returned 6.5%, with more credit focused managers tending to outperform those managers with higher weightings to fundamental equity long/short strategies.

## Absolute Return Portfolio

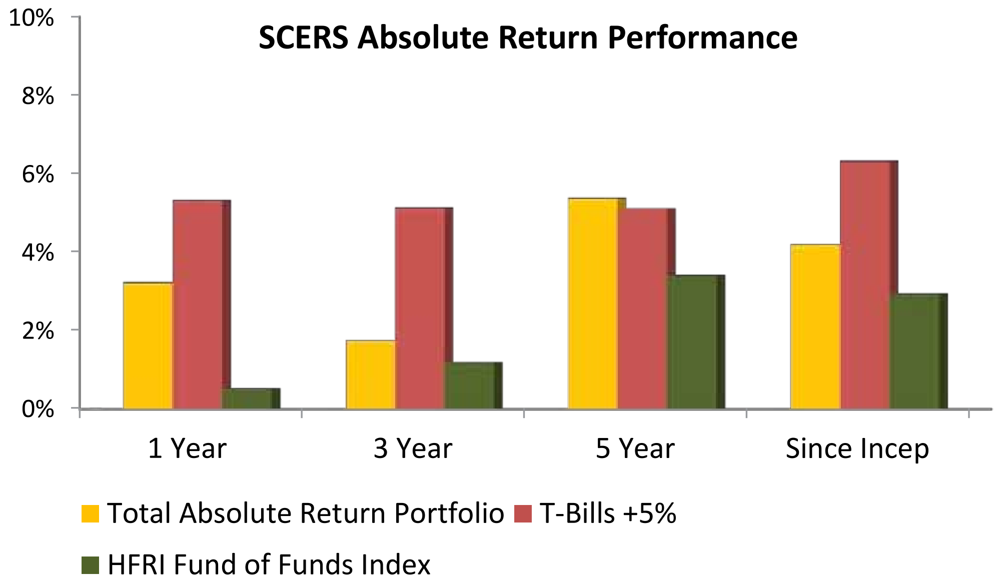
SCERS' Absolute Return portfolio is structured as a broadly diversified program of multiple absolute return strategies. The asset allocation structure includes four components: (1) A direct absolute return component; (2) SC Absolute Return Fund ('SCARF'), a multi-strategy absolute return separate account portfolio managed by strategic partner, Grosvenor Capital Management; (3) SCARF – B, an interim absolute return component consisting of a more liquid version of SCARF, also managed by Grosvenor, which is intended to provide diversified exposure to a multi-strategy absolute return portfolio and be drawn down to fund direct absolute return investments; and (4) A bottom-up multi-strategy-based replication component, managed by AQR.

Historically, the objective of SCERS' Absolute Return program has been to achieve a return near that of SCERS' total fund objective while at the same time reducing total fund risk. SCERS' absolute return portfolio is a 'hybrid' program, investing in a combination of direct external absolute return managers, as well as utilizing customized 'fund of one' separate accounts (with Grosvenor). The direct absolute return portfolio is intended to have similar return and risk characteristics as the Grosvenor portfolios with reduced costs where possible, but with more concentrated exposures across strategies and managers, while the Grosvenor portfolio will have greater diversification to a wider range of strategies and managers. SCERS' absolute return program is diversified across absolute return strategies as outlined in the chart below.

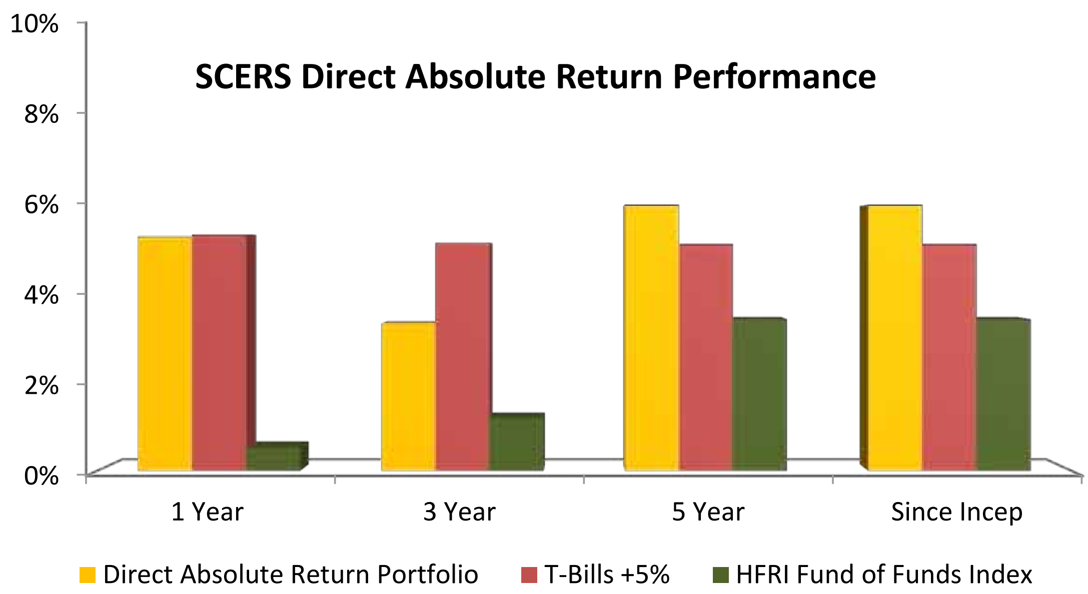



### 2016 ACTIVITY

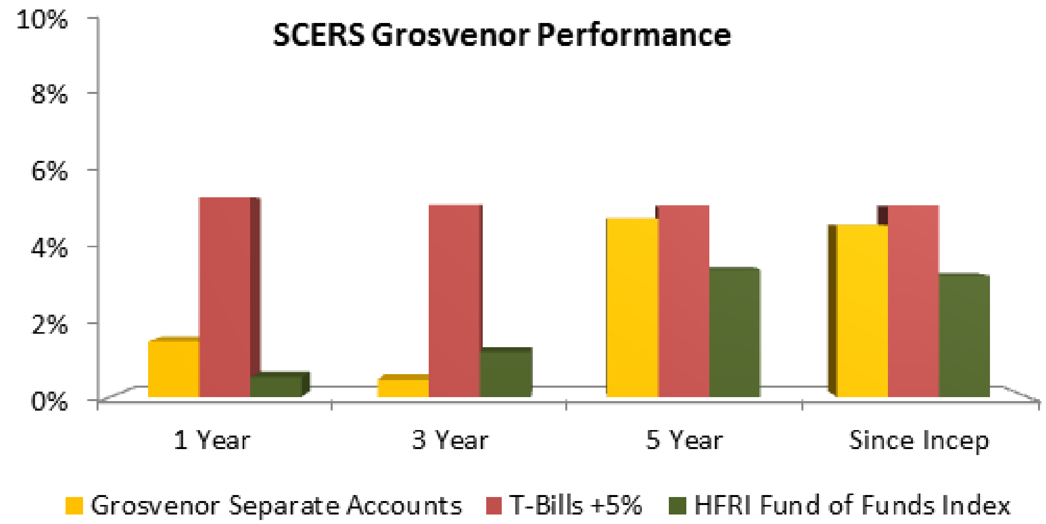
- Cliffwater and Staff identified candidates for direct Absolute Return investments
  - Performed extensive due diligence on candidates, including manager meetings and consultations with absolute return strategic partner, Grosvenor Capital Management
  - Prepared multiple reports for the Board evaluating potential investments
  - Identified two direct investments in the systematic macro segment, and finalized one of them
  - Additional strategies were identified for further due diligence in 2017
- Oversaw, monitored and met with SCERS' Absolute Return managers




SCERS' Absolute Return portfolio returned 3.2% in 2016. The Absolute Return portfolio delivered mixed results against SCERS' benchmarks, outperforming the HFRI Fund-of-Funds Index return of 0.5%, by 2.7%, but underperforming the 5.3% return of SCERS' absolute return policy index benchmark, 90 Day T-Bills + 5%, by 2.1%. Over the three-year and 5-year periods, the Absolute Return portfolio has returned 1.8% and 5.4%, respectively, versus the 90 Day T-Bills + 5% return of 5.1% and 5.1%, and versus the HFRI Fund-of-Fund Index Return of 1.2% and 3.4%.




SCERS' direct absolute return portfolio returned 5.3% during the year, and at the strategy level, delivered a variety of returns. While the less correlated strategies tended to outperform, and the more value-oriented and cyclical strategies underperformed in 2015, 2016 saw just the opposite. SCERS' best performing funds were in the more cyclical event driven (7.3%), equity long/short (11.2%) and long/short credit segments (+6.6%), while the lower returning funds were in the less correlated volatility arbitrage (1.8%), discretionary global macro (3.0%) and low correlated multi-strategy segments (2.3%). Over the longer 3-year and 5-year periods, SCERS' direct absolute return portfolio has returned 3.3% and 6.0%, respectively, versus the policy index 90 Day T-Bills + 5% return of 5.1% and 5.1%, and versus the HFRI Fund of Funds Composite Index return of 1.2% and 3.4%.




SCERS' SCARF and SCARF-B portfolios managed by Grosvenor returned 1.5% in aggregate, underperforming SCERS' direct absolute portfolio, and both benchmarks. Over the longer 3-year and 5-year periods, SCERS' Grosvenor separate accounts have returned 0.5% and 4.8%, respectively, versus the policy index 90 Day T-Bills + 5% return of 5.1% and 5.1%, and versus the HFRI Fund of Funds Composite Index return of 1.2% and 3.4%.

## 2017 Goals

- Re-structure and implement the Absolute Return portfolio to reflect SCERS' new asset allocation
- Total allocation remains at 10%, but rotate aggregate exposure in favor of diversifying strategies (component of Diversifying asset category) over growth oriented strategies (component of Growth asset category)
- Evaluate SCERS' current benchmarks for Absolute Return
- Revise the investment policy statement for Absolute Return
- Identify, perform due diligence and make investments in two to four funds within the direct absolute return program
- Focus on less correlated strategies
- Continue to oversee, monitor and assess the existing manager lineup
- Deepen expertise by increasing capabilities in operational due diligence

### Market Overview

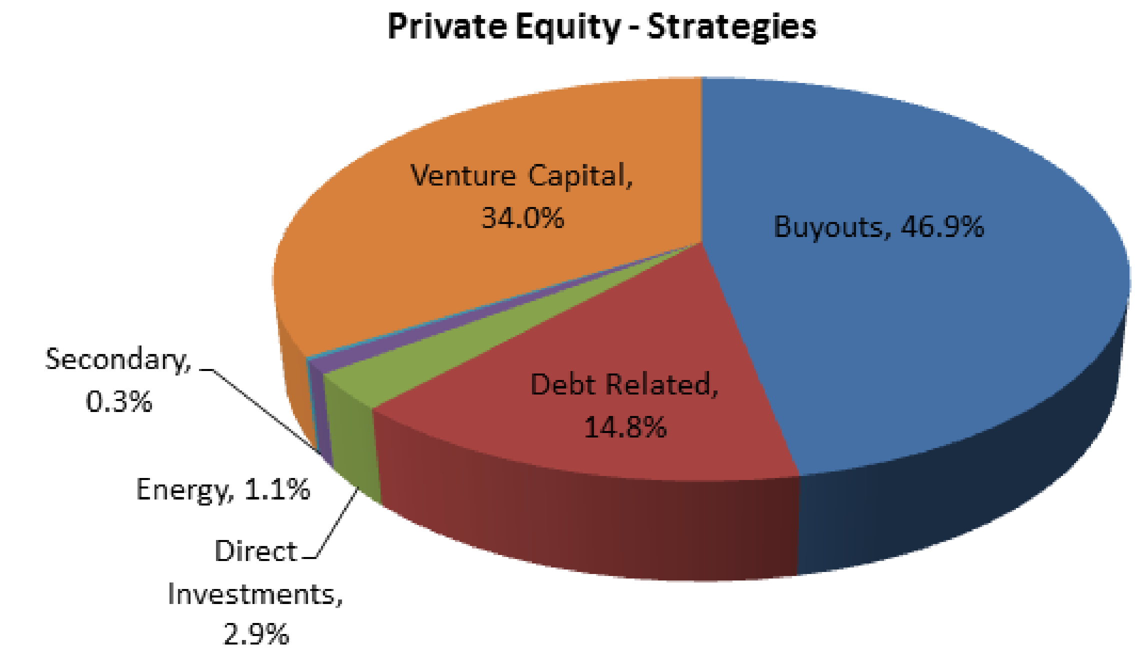
The private equity markets generated solid overall performance in 2016, but participants showed more discipline compared to recent years. Private equity investment managers were a bit more conservative in their activity given greater macroeconomic uncertainty, and in an environment of increasing competition and higher valuations. A good gauge to evaluate discipline of investment managers when deploying capital, is the average entry multiples that are being paid. Over the past few years, this measure has gotten very high. In 2015, the average purchase price/EBITDA multiple within U.S. buyout was 10.3x, up from 9.7x in 2014, and for comparative purposes 9.7x at the prior peak in 2007. For 2016, this figure was 10.0x, and marked the first annual decline since 2012. Another measure in discipline is leverage, where in 2016, the average debt-to-EBITDA multiple for buyout transactions was 5.4x, down from 5.6x in 2015. Transaction volumes in U.S. buyout for 2016 totaled $213 billion, a decline of 18.7% from the prior year and the first year-over-year decline in activity since 2009. Greater restraint was also shown in venture capital, where U.S. firms invested $58.6 million in 2016, a 20% decline from prior years. Valuations within venture capital softened due to a slowdown in the IPO markets, where volume was off 38% compared to 2015, which impacted the exit environment for venture capital backed companies. Within Europe, after heavy activity over the past couple of years, buyout transaction activity decreased in 2016, back to 2010-2013 levels.

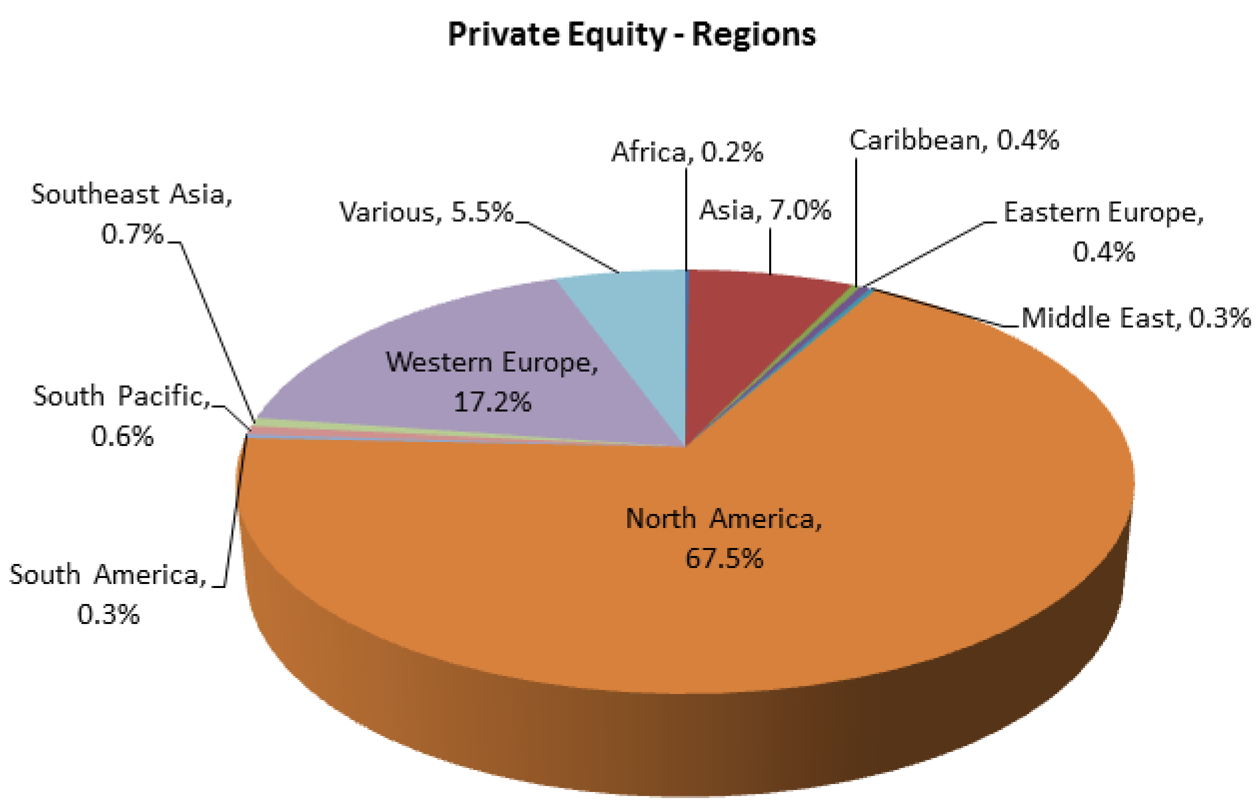
While transaction volumes and valuations were down, private equity fundraising remained robust in 2016. Total fundraising activity in 2016 totaled $354 billion, an 11% increase compared to 2015, and the highest annual total since 2008. However, fundraising within the core private equity global buyout segments was flat, as most fundraising growth occurred within Europe-focused funds, subordinated debt strategies and infrastructure funds. Overall, the private equity industry remains near peak levels across several metrics, however, investment managers appear to be showing slightly greater levels of restraint compared to prior years as more macroeconomic and private equity specific headwinds arise, and private equity limited partners are allocating to a wider variety of strategies as increasing dollars continue to pour into private equity and other private markets segments.

### Private Equity Portfolio

SCERS' Private Equity portfolio is broken out by strategy, including buyout, venture capital, debt-related and 'other' less defined strategies, as well as by region. Since the asset class was re-structured in 2011, SCERS has been building a direct Private Equity program by making commitments consistent with the asset class's investment plan and investment structure. These direct commitments complement SCERS' existing Private Equity fund-of-funds, which were established during the 2006-2008 time period. SCERS' Private Equity investments are based on a multi-year plan to reach and maintain the 10% target allocation in Private Equity, by investing across the various strategies and regions within the Private Equity structure. The longer-term objectives of the Private Equity portfolio are to earn equity-like returns with an additional premium to compensate for the liquidity risk undertaken by investing in the asset class. The policy benchmark that SCERS uses to assess long-term performance of the Private Equity asset class is the Russell 1000 + 3%. SCERS also compares the performance of the Private Equity portfolio to the Cambridge Global

Private Equity & Venture Capital Benchmark. The current strategy and geographical breakdown of SCERS' Private Equity portfolio is below.



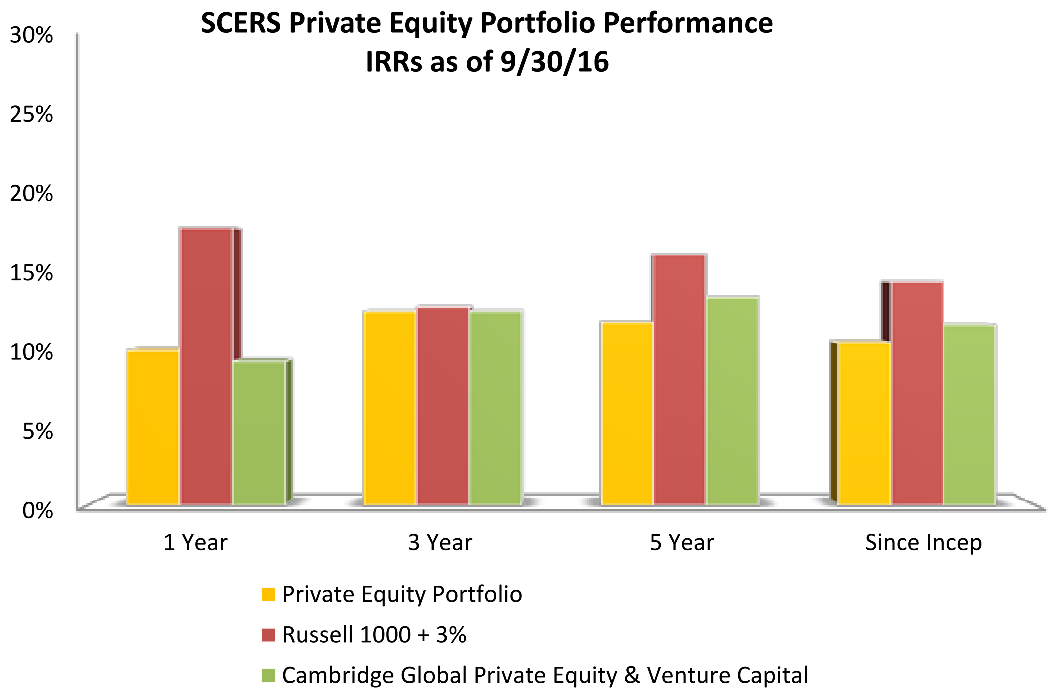




*"Various" includes partnerships with global or pan-regional mandates.

## 2016 ACTIVITY

- Presented the annual report on Private Equity and developed the 2016 Private Equity annual investment plan
- Cliffwater and Staff identified candidates for direct Private Equity commitments
  - Performed extensive due diligence on candidates, including consultations with current private equity fund of funds managers, Verus and other limited partners
  - Focused on sector specific and niche strategies in less cyclical industries with a demonstrated track record of maintaining pricing discipline
  - Prepared multiple reports for the Board evaluating potential investment opportunities
  - Finalized four direct Private Equity commitments in 2016 – Three were 're-ups' with existing managers, and one was a new fund formed by an existing manager
    - A U.S. distressed debt fund
    - A U.S. middle market control oriented software and technology buyout fund
    - A European focused lower-middle market control oriented buyout fund
    - A private equity fund that acquires minority stakes in established and institutional private market investment management firms
- Assessed the landscape for strategic partners to assist SCERS in fully building out its private equity portfolio
- Staff, counsel and Cliffwater provided board education on regulatory scrutiny around private equity fee and expense transparency

## PERFORMANCE AND ATTRIBUTION




While performance numbers for SCERS' Private Equity investments become more relevant each year, they are still not fully comparable to the benchmarks at this point, due to SCERS being in the earlier to middle phase/cycle of investments within this asset class, and the unique cash flow characteristics within private equity. Once a commitment is made to a private equity fund, capital is not drawn down at once, but rather, over a 5-6 year investment period. Returns within private equity typically follow a 'J-curve', where negative returns are generated initially followed by increasing levels of positive returns over time.

SCERS' Private Equity portfolio continues to progress through the J-curve and is generating increasing levels of positive performance, particularly in the more recent measurement periods. For the 1-year period ending September 30, 2016, SCERS' Private Equity portfolio generated a net IRR of 10.0%, which outperformed the Cambridge Global Private Equity & Venture Capital benchmark return of 9.3%. The Private Equity return trailed SCERS' public market benchmark, the Russell 1000 + 3%, which returned 17.9%. SCERS' since inception net IRR is 10.5%. While SCERS' fund-of-funds commitments made in 2006 and 2008 were a significant contributor to returns early on, several of SCERS' direct private equity investments made since 2011 are generating meaningful returns and distributing capital back to SCERS, which is making the direct portfolio an increasing component of SCERS' overall historical Private Equity returns.

## 2017 Goals

- Re-structure and implement the Private Equity portfolio to reflect SCERS' new asset allocation
  - Total allocation decreases from 10% to 9%
    - Private Credit strategies are removed from Private Equity and form its own asset class within the Growth asset category
  - Evaluate SCERS' current benchmarks for Private Equity
    - Develop new benchmark(s) for Private Credit
  - Revise the investment policy statement for Private Equity
    - Create a new investment policy statement for Private Credit
- Identify, perform due diligence and make investments in five to ten funds within the Private Equity portfolio
  - Fund candidates include buyout, venture capital and distressed debt
  - Remain cognizant of risks later in the cycle, including increasing valuations and fund sizes, while maintaining vintage year diversification
  - Place particular focus on sector-specific funds where a fund manager has differentiated expertise, experience managing multiple cycles and access to proprietary deal flow
  - Focus on select new manager relationships, and 're-ups' with existing funds that will be in the market fundraising
- Continue to oversee, monitor and assess the existing manager lineup
- Continue to identify segments of the Private Equity portfolio where it could potentially be challenging to build a full portfolio of direct commitments, including venture capital, emerging markets, small market buyout and special situations segments, and assess strategic partners to assist in filling these gaps
- Present the annual report on Private Equity and the annual investment plan, including a reassessment of the cash flow model

## Market Overview

Similar to other asset classes, real assets also experienced a roller coaster ride in 2016, especially within the commodity markets. Entering the year, oil and commodity prices were decidedly down on expectations of continued weak demand and oversupply. Energy markets rallied late in the first quarter off of discussions from OPEC nations to potentially reduce oil production, and reduced capital spending by U.S. shale producers, both of which had the potential to reduce global supply. The market received an additional spark later in the year when the OPEC reduction was formally adopted. The definitive agreement among the OPEC nations and other non-OPEC countries, such as Russia, to reduce oil production, its first production cut since 2008, gave investors the confidence that the oil oversupply could be quickly absorbed and demand would pick up from anticipated economic growth. The result of these catalysts was a jump in the price of oil during the year, from its January 2016 low of $28 per barrel to just above $54 per barrel at year-end. Another catalyst within the commodities market came subsequent to the election of Donald Trump as president of the United States. Mr. Trump's campaign promises of deregulation, tax cuts, and increased infrastructure spending were viewed as promoting economic growth, which led to an industrial metals rally.

Within real estate, the reaction to headline events early in the year gave investors pause and along with the prolonged real estate cycle, real estate transaction volumes decreased from 2015's historical levels. With indications from the U.S. Fed that they expect three more rate increases in 2017, real estate values have softened, a clear indication the real estate cycle is past its peak. Real estate managers report anecdotal evidence of re-trades occurring in the marketplace, as buyers become more skittish and increasing loan rates could impact returns going forward.

Despite transaction volumes down for the year, it is not because of a lack of capital in the market. In fact, there is a record amount of capital sitting idle, amounting to over $262 billion globally, with the majority of the dry powder targeting the U.S. While the low interest rate environment has favored real estate, the frequency of federal funds rate increases, along with a potential steepening of the yield curve, could have a decidedly unpleasant impact on real estate returns. As observed in other asset classes, real estate values are priced for market perfection. As such, real estate performance could be susceptible to tail events, with appreciation returns particularly at risk. Under these circumstances, Staff and Townsend remain vigilant and cautious.

## Real Assets Portfolio

SCERS' Real Assets asset class is comprised of several sub-asset classes: (1) Core real estate; (2) Private real assets (infrastructure, energy, agriculture, timber, and other natural resources); (3) Commodities; and (4) Treasury Inflation-Protected Securities ('TIPS'). The objectives of the Real Assets portfolio are to generate moderate income, serve as an inflation hedge, and lessen the total fund's equity risk sensitivity.

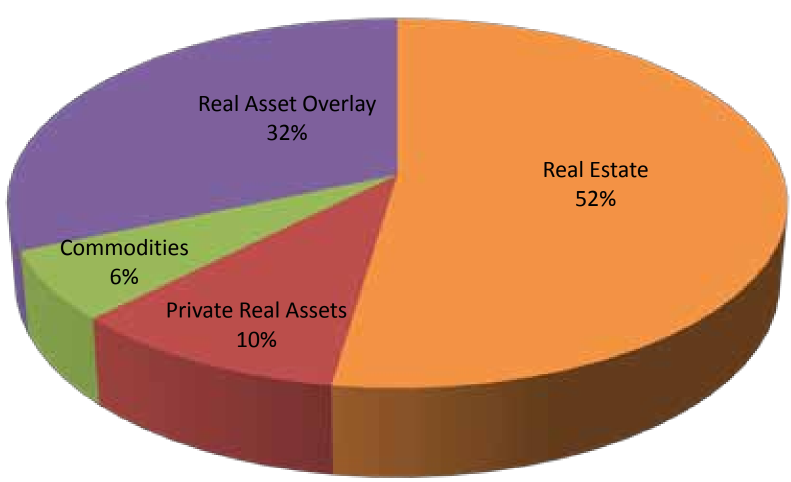
SCERS' core real estate structure consists of a mix of core separate accounts ('CSAs') and core open-end commingled funds ('COEFs'). As has been noted previously, core real estate prices have reached or exceeded prior peak, resulting in Staff and Townsend maintaining buying discipline, while strategically selling underperforming properties in the CSAs. During the year, several properties were identified as having maximized their return potential, resulting in four assets being sold. The remaining seven assets in the CSA are projected to maintain positive core returns and therefore, no further property dispositions are expected in 2017.

During 2015 and 2016, Staff and Townsend targeted redevelopment and build-to-core opportunities in select primary markets with SCERS' separate account managers. However, there have been few opportunities meeting SCERS' risk-return objectives. The lone investment SCERS made was to a redevelopment project is an office/retail redevelopment project in Portland, OR, which kicked off construction in early 2016. To date, construction has been on schedule and within budget. Staff, Townsend, and separate account manager BlackRock have been keenly focused on the lease-up of the property and conduct bi-weekly conference calls to review activity and milestones. Construction is expected to be complete by mid-year 2017.

With the U.S. real estate market into a later cycle period, and with real estate values arguably overvalued, Staff and Townsend have found very few investment opportunities outside of a couple of niche U.S. property-types (e.g., ambulatory care facilities). Despite few investment opportunities in the U.S., Staff and Townsend have identified and believe there are compelling investment themes outside of the U.S., specifically European student housing and China logistics. Staff and Townsend have met with various investment managers targeting Asia/China logistics and a few UK-based student housing operators during the year. It is anticipated that one or both investment themes could be brought to SCERS' portfolio during 2017.

As of December 31, 2016, SCERS' actual Real Assets allocation, excluding the SSGA overlay proxy for the asset class, is 9.3%, well below the policy target of 15.0%. Please note the non-core real estate investments are held within the Opportunities asset class, and draw capital from the Real Assets asset class, as this is the asset class with the closest risk and return profile to the opportunity being invested in. Including the Opportunities asset class real estate funds, SCERS' Real Assets allocation is actually 11.3%. The 3.7% actual-to-target allocation gap is mostly due to SCERS' Private Real Assets allocation, which stands at 2.0%, well below its 6% target.

## Real Assets - Strategies




To close the gap between the target Real Assets allocation of 15% and the actual allocation of 11.3%, SCERS' Overlay manager, SSGA, utilizes a Real Assets Strategy Overlay proxy. This

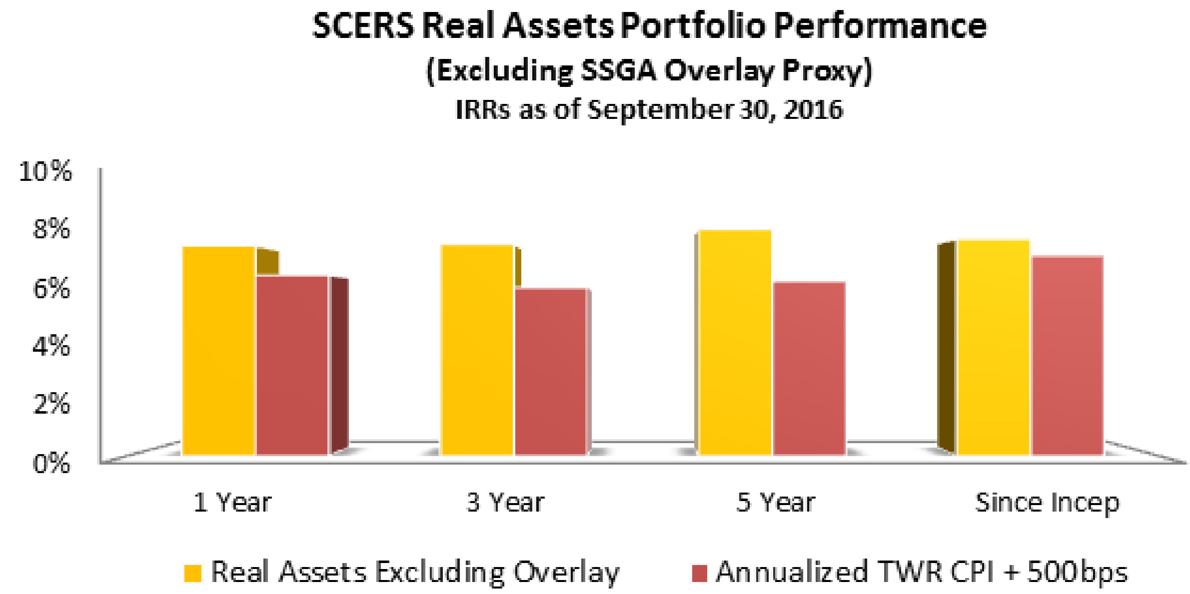
Overly proxy provides exposure to a diversified blend of commodities, global infrastructure stocks, global natural resource stocks, Treasury Inflation Protected Securities (TIPS), global REITs, and midstream energy-focused master limited partnerships (MLPs). While the proxy is not ideal, the mix of investments does provide SCERS with inflation protection, diversified returns, and a moderate level of current yield. However, the SSGA proxy is comprised of publically traded securities, which does not effectively replicate the 'liquidity premium' historically achieved by private market investments, and will be subject to greater levels of market volatility.

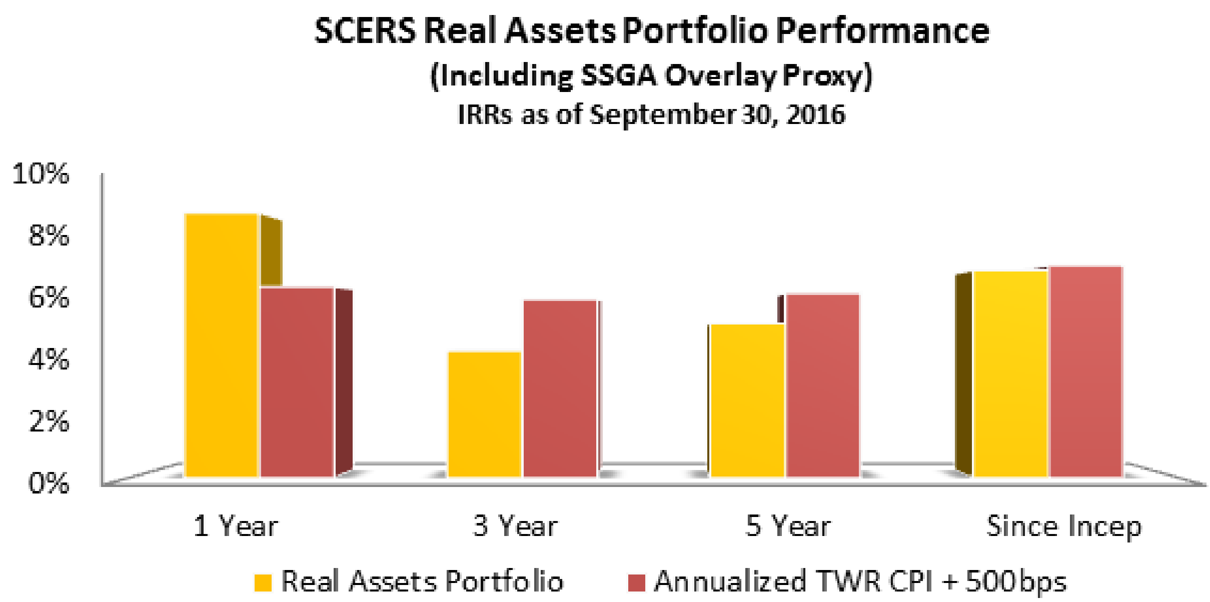
SCERS continues to make progress in closing the gap within Private Real Assets, however it is a multi-year process similar to private equity that is expected to be fully completed in 2019. Staff and Cliffwater have been focused on private real assets investments with meaningful contracted yield, cash flow consistency, and less macro sensitivity. During the year, SCERS made new commitments to a global core/core plus infrastructure closed-end fund and a U.S. agriculture closed-end fund. Staff and Cliffwater expect to target several private real asset investment themes during 2017, including energy infrastructure, private-public core infrastructure, and agriculture.

## 2016 ACTIVITY

- Presented the Real Assets 2016 annual report and developed the 2017 annual investment plan
- Disposed of four separate account properties (Gateway Corporate Center, Flying Cloud Office, Forest Pointe Apartments, and Stonefield Apartments)
- Oversaw, monitored, and visited real estate assets which are undergoing major exterior and interior capital improvement projects
- Initiated the Portland, OR office/retail redevelopment project (Leland James Center aka Block 295)
    - Oversaw, monitored, and visited building construction
    - Conducted bi-monthly leasing and project development meetings
- Made three new investment commitments
    - A U.S. core real estate open-end fund managed by Townsend
    - A global core/core plus infrastructure closed-end fund
    - A U.S. permanent crop agriculture closed-end fund
- Reviewed numerous investment opportunities within SCERS' Atalaya separate account, with no new investments meeting SCERS' risk-return profile
    - Widened the range of investment opportunities considered
- Co-invested in two Nordic power distribution plants and a core infrastructure portfolio holding 91 public-private assets within SCERS' Pantheon separate account
- Oversaw, monitored and met with SCERS' Real Assets managers

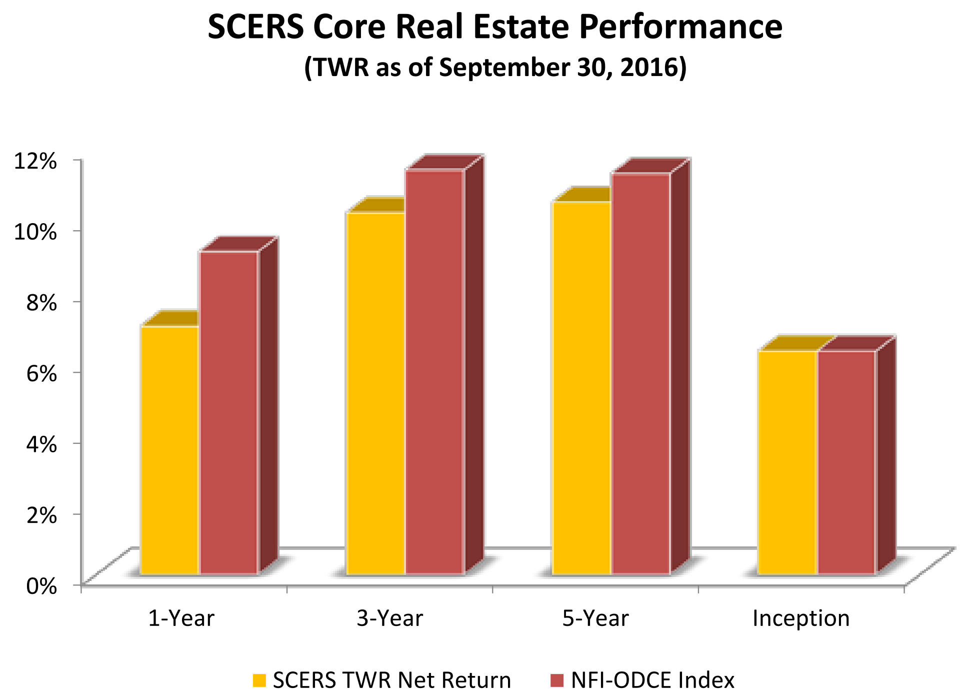
## PERFORMANCE AND ATTRIBUTION



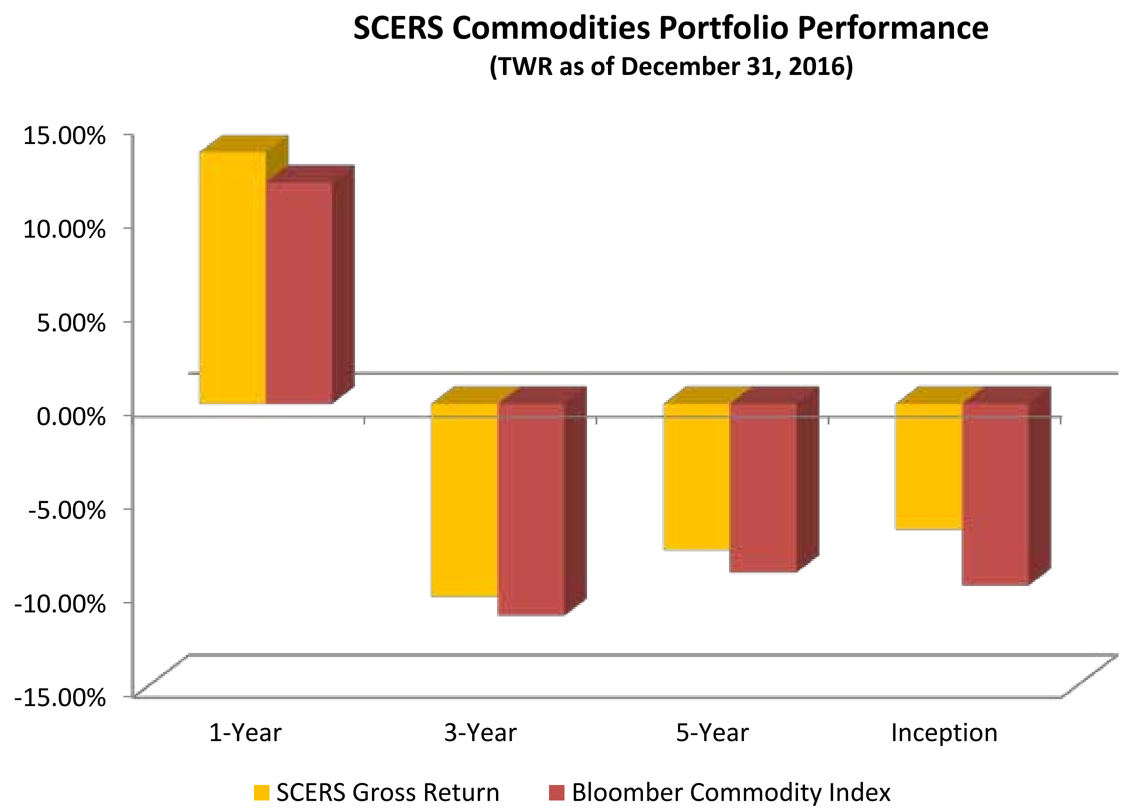

As of September 30, 2016, SCERS' Real Assets portfolio, excluding the SSGA Real Assets overlay, generated a 1-year net IRR of 7.5%, outperforming against SCERS' CPI-U Headline + 5% benchmark return of 6.5%. Over the same one-year period, the SSGA Real Asset Strategy, which serves as the asset class proxy, generated a one-year return of 10.7%. Including the SSGA Real Assets proxy return, SCERS' overall Real Assets portfolio generated a one-year net IRR of 9.0%. The overlay proxy benefitted the Real Assets performance during the year, after being a detractor to performance during the prior year. The strong performance of the SSGA proxy was the result of the rally in commodities, TIPS, and energy stocks.

## Real Estate




For the one-year period ending September 30, 2016, SCERS' core real estate portfolio returned a net 7.0%, underperforming against the NFI-ODCE benchmark net return of 9.1%. The core portfolio returns have underperformed over all reporting periods as well, which is attributable to asset write-downs in the separate accounts, and the drag of two poorly performing older COEFs, which have since been liquidated. Staff and Townsend have been rebalancing SCERS' core real estate portfolio over the past few years by disposing of weak separate account assets and re-investing in a mix of top tier open-end and close-end core funds. These recent vintage core investments have been outperforming the benchmark over all reporting periods.

## Commodities




SCERS' dedicated active long-only commodities allocation currently sits at 0.8%, which is below the target of 2.0%, but within the allowable range. However, SCERS has an approximate 0.8% commodity allocation within the SSGA Real Assets proxy used in SCERS' overlay program, which brings SCERS' aggregate commodity specific allocation closer to 2.0%. SCERS' dedicated commodities returned 13.4% in 2016, outpacing the Bloomberg Commodity Index benchmark's return of 11.8%. However, the commodities portfolio returned -10.3% and -7.8% over the 3-year and 5-year periods, having been significantly impacted by the extreme sell off in commodities (energy in particular) in 2014 and 2015. The objective for continuing to hold a small allocation to commodities over the long-term is the diversification benefits at key points in the markets, including inflationary periods.

## 2017 Goals

- Re-structure and implement the Real Assets portfolio (now called Real Return) to reflect SCERS' new asset allocation
    - Total allocation increases from 15% to 16%
        - Private Real Assets increases by 1%, from 6% to 7%
    - Evaluate SCERS' current benchmarks for Real Return
    - Revise the investment policy statement for Real Return
- Conduct due diligence on potential real estate investment opportunities
    - U.S. ambulatory care centers
    - China logistics
    - European student housing
- Conduct due diligence on potential private real asset investment opportunities
    - North American upstream and midstream energy infrastructure
    - North American public-private partnership (PPP) core infrastructure
    - Global agriculture
- Continue to review and execute on SCERS' custom separate accounts with Atalaya and Pantheon
- Identify and evaluate execution of SCERS' core real estate strategy (separate account versus commingled funds)
- Present the 2017 Real Assets annual report and 2018 annual investment plan

# OPPORTUNITIES

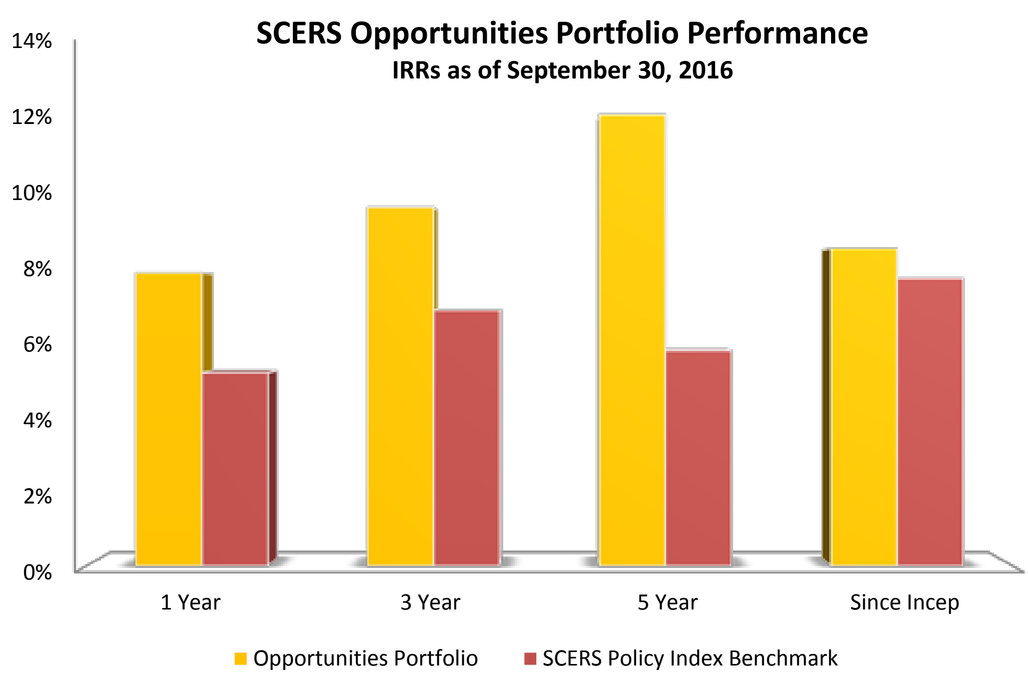
## SCERS' Portfolio

The Opportunities asset class does not have a fixed allocation, but instead has a permissible range of 0% to 5%; currently the allocation is 2.2%. The asset class is designed to invest in tactical investment opportunities with attractive risk and return attributes. Such opportunities may be short-term, niche, non-traditional, or opportunistic in nature and may exist across a wide range of asset categories. When an Opportunities investment is identified, the investment draws its capital allocation from the asset class with the most comparable risk and return characteristics as the investment being made. In this way, the potential Opportunities investment is measured against and competes for an allocation relative to comparable investment opportunities among asset classes. Based on this assessment, it is possible that no investments will be made in the Opportunities asset class in some years, which occurred in 2016.

### 2016 ACTIVITY

- Oversaw, monitored and met with SCERS' Real Assets managers

### PERFORMANCE AND ATTRIBUTION



As of September 30, 2016, SCERS' Opportunities portfolio generated a net IRR of 7.9%, outperforming against SCERS' policy index of 5.2%. Over longer reporting periods, SCERS' Opportunities portfolio has also significantly outperformed against the policy index, with 3-year and 5-yer net IRRs of 9.7% and 12.2%, respectively, versus the policy index returns of 6.9% and 5.8%. Earlier period performance in the Opportunities portfolio is influenced by several 2006 and 2007 vintage year value-added real estate funds that were invested in prior to the GFC, and several since liquidated distressed debt funds that SCERS invested in the aftermath of the GFC. SCERS has recently invested in several 2014 to 2016 vintage year real estate funds that are still earlier in their investment periods, yet are making a significant contribution to SCERS' Opportunities outperformance. SCERS is fortunate that the majority of these recent vintage funds are out of their negative J-curve period earlier than expected, and not only are they generating capital appreciation but are delivering current yield as well.

## 2017 Goals

- Re-structure and implement the Opportunities portfolio to reflect SCERS' new asset allocation
  - No change in target weight and ranges
  - Evaluate investment strategies that are eligible for investment in Opportunities
- Continue to identify and evaluate tactical opportunities in unique/differentiated investment strategies offering an attractive risk-return prospect

# Other Investment Activities

## 2016 ACCOMPLISHMENTS IN OTHER INVESTMENT ACTIVITIES

In addition to the activities within SCERS' investment program at the asset allocation and asset class levels, a number of enhancements and efforts were made in the day-to-day management of the investment program.

- Oversaw and monitored existing relationships
  - Met with SCERS investment managers
  - Visited real estate holdings within SCERS' core separate accounts
- Utilized the portfolio compliance monitoring system provided by State Street Bank (SCERS' custodian bank) as a 'check and balance' on manager guidelines
- Evaluated performance reporting compiled by SCERS' investment managers and consultants
- Continued to monitor and assess the securities lending program
- Continued evaluation of segments of SCERS' Overlay Program that expose SCERS to basis risk to the return and risk characteristics of the underlying asset class, particularly within the private markets asset classes
- Evaluated trading costs and commission re-capture program on an ongoing basis
- Conducted successful (i.e., low cost) transition management when disposing or acquiring assets
  - Conducted U.S. Domestic Equity rebalancing – Reduced exposures across U.S. large cap managers and U.S. REIT manager

## 2017 GOALS FOR OTHER INVESTMENT ACTIVITIES

- Revise and update SCERS' broad IPS to reflect changes related to the 2016 asset allocation study, and incorporate individual asset class IPS's into the broad IPS
- Increase capabilities within operational due diligence for alternative investments
- Conduct on-site due diligence on existing managers and existing real estate holdings
- Research risk management and software management systems for SCERS' total portfolio and asset classes, including:
  - Investment accounting software
  - Private markets portfolio/capital flows management software
- Continue to assess the securities lending program
- Assess the strategic approach of and the proxies used within the Overlay Program

# Investment Education

## 2016 BOARD EDUCATION

- Educational presentation on systematic macro absolute return strategies by Cliffwater
- Educational presentation on private equity fund transparency by Foley & Lardner, Cliffwater and Staff
- Presentation by EnCap Investments on energy infrastructure strategies they manage for SCERS
- Educational presentation on approaches to the development of asset classes in SCERS' investment portfolio by Verus Advisory and Staff
- Educational presentation regarding asset class construction and its impact on investment performance, funded ratio, and contribution rates by Verus Advisory and Staff

## 2017 BOARD EDUCATION

- Current SCERS investment manager presentations
- Educational presentations by Consultants and Staff

# Appendix

Verus

# Memorandum

**To:** Sacramento County Employees' Retirement System Board

**From:** Verus

**Date:** February 15th, 2017

**RE:** 2016 Review and Outlook

***Executive Summary***

*Investment returns in 2016 were positive across all asset classes, resuming the eight-year trend that stalled temporarily in 2015. While all asset classes were up, there was great variation ranging from 1.3% for US investment grade fixed income to 31.7% for small cap value stocks in the US.*

*Having recently completed the asset/liability study for SCERS, 2017 will be focused on documenting the Board's decisions and implementing the new strategy. The new approach is more oriented toward asset class functionality to better diversify the Plan from harsh drawdowns while preserving the opportunity to realize the financial rewards of participating in economic growth.*

*In this memo we will review the investment environment in 2016 in the major asset classes, detail 2016's initiatives and outline the work plan for 2017.*

**US Equity**

Although the S&P 500 was up nearly 12% for the year, and small cap stocks were up over 21%, it was a bumpy ride with frequent changes in market leadership.

January began with fears that the Federal Reserve Bank would be on a path to raise interest rates quickly and trigger an economic recession. As the Fed assured the markets that wouldn't happen, prices recovered in February along with prices of commodities. Moving into summer the rally stalled due to worries about sluggish global growth, de-stabilization in Europe and the Middle East and the US election. Following the election, US markets soared, buoyed by anticipation of lower tax rates, decreased regulation and infrastructure spending.

Within the US Market, the first half saw stocks carrying high dividend yields perform the best, as investors traded low yielding bonds for higher yielding stocks. In the third quarter, as bond yields began to rise, the market's focus shifted fundamentals that favored cheaper, value-oriented stocks. The post-election market then moved on to sectors expected to benefit from the new administration's proposals, banks, industrials, materials and, along with an OPEC agreement to curtail production, energy.

**International Equity**

Non-US developed market lagged the US, with EAFE up only 1% for the year vs. 12% for the S&P 500. Emerging markets almost kept pace with the US, earning 11.2% for the year. Of note, the emerging markets were up 17% YTD at the time of the election, but surrendered about 1/3rd of the gain in the subsequent seven weeks while the US soared. Both non-US develop and emerging markets suffered from a strong US dollar in the post-election period.

The collapse of the British Pound following the unexpected Brexit result in June, dropping nearly 18% versus the US Dollar by year-end, was perhaps the most stunning outcome. Other significant performance changes included the rebound of the Canadian market (up 30% after a 2015 decline of 24%), and the reactions of the Mexican Peso to the ebbs and flows of the Trump candidacy throughout the year.

**Fixed Income**

For 2016, investment grade US markets returned a scant 1% as interest rates rose, especially in the fourth quarter. Despite the rise in rates, high yield bonds returned 17% for the year as credit spreads narrowed and the rate of defaults anticipated at the start of the year did not materialize.

International sovereign bonds performed in line with the US market, returning 1.4% for the year, but achieved their return on a very different path – prices were up sharply in the first half as many markets showed negative yields in the summer, then down sharply as yields moved back into positive territory, although still significantly lower than similar maturity US Treasuries. Policy-makers realized the detrimental effects negative yields were having on the banking and insurance sectors in the early fall.

**Outlook**

Global economies and stock markets seem to be responding to the potential for a more business-friendly political environment in the United States. This enthusiasm is being tempered by the prospects of barriers to free trade, regional skirmishes, populist movements, a strong US Dollar and rising inflation and interest rates.

The steps taken by China to stimulate growth simultaneous with efforts to reduce unnecessary capacity have helped to stabilize the Asian emerging markets. Dollar strength and positive interest rates are helping Europe to stabilize its economies despite the uncertainties surrounding Brexit. The broad recovery in commodity prices should help confidence in resource-rich emerging economies.

Valuations are rich in most areas of the world, but most so in the United States. Along with the above backdrop, this should bode well for the SCERS portfolio which remains sensitive to global growth.

Concerns about "the next recession" may have been pushed out into the future, but it could result in a deeper and broader downturn when it does occur. Recent decisions to further diversify the portfolio should help soften the drawdown in that scenario.

**Portfolio Initiatives**

*Asset Allocation Study*

SCERS completed an asset allocation study in 2016. Beginning with an Enterprise Risk Tolerance assessment that that identified the key performance objectives of the SCERS' Plan and prioritized what risks would prevent SCERS from achieving those objectives. Staff and Verus provided a series of education presentations to the Board regarding asset allocation, approaches to viewing risk and introducing a new framework for grouping asset classes. After a series of iterative processes between Staff/Verus and the Board, we were able to finalize a new asset allocation in January 2017. The new policy target will not drastically differ from SCERS' current policy though we think it is worthwhile to highlight material changes. The new Policy will reduce exposure to growth asset classes by 4% by reallocating public equities and growth-oriented hedge funds into diversifying segments and real return segments. We believe this move will provide increased risk diversification and should reduce drawdowns in a tail-risk event.

SCERS will also be reallocating 3% of public equities and 1% private equity into a new private credit asset class. Private credit offers attractive yields in today's low yield environment, a position higher in the cap structure than equities and increased flexibility to invest in different forms of credit instruments.

Lastly, we reallocated 5% from core fixed Income to a new U.S. Treasury allocation. A dedicated allocation to Treasuries will provide additional rate exposure to the portfolio and importantly, provide an important downside protection element to the Plan. Based on forecasted risk and return assumptions, the new policy target will slightly reduce expected returns but materially reduce volatility and narrow the Plan's tail-risk exposures.

| Asset Class | SCERS' Current Policy | Mix 2 | Changes |
|---|---|---|---|
| **Growth** | **63.0%** | **59.0%** | **-4.0%** |
| Public Equities | 45.0% | 41.0% | -4.0% |
| Private Equity | 10.0% | 9.0% | -1.0% |
| Public Credit | 2.0% | 2.0% | 0.0% |
| Private Credit | 0.0% | 4.0% | 4.0% |
| Growth Oriented Absolute Return | 6.0% | 3.0% | -3.0% |
| **Diversifying** | **22.0%** | **25.0%** | **3.0%** |
| Core/Core Plus Fixed Income | 15.0% | 10.0% | -5.0% |
| U.S. Treasury | 0.0% | 5.0% | 5.0% |
| Global Fixed Income | 3.0% | 3.0% | 0.0% |
| Diversifying Absolute Return | 4.0% | 7.0% | 3.0% |
| **Real Return** | **15.0%** | **16.0%** | **1.0%** |
| Real Estate | 7.0% | 7.0% | 0.0% |
| Private Real Assets | 6.0% | 7.0% | 1.0% |
| Commodities | 2.0% | 2.0% | 0.0% |
| **Opportunities** | **0.0%** | **0.0%** | **0.0%** |
| | 100.0% | 100.0% | |

*Real Return Portfolio*

The real return portfolio increased by 1% in the new asset allocation exercise. Private real assets went from 6% to 7% of the Plan. SCERS continued to build out the private real assets portfolio in 2016 with commitments in infrastructure, energy and agriculture.

- Look for additional opportunities in private infrastructure
- Look for opportunities within private energy and/or mining given the global turmoil in both markets
- Continue buying private secondary infrastructure fund interests through Pantheon

*Fixed Income Portfolio*

SCERS added a new allocation to Treasuries in the 2016 asset allocation study. Treasuries will be funded from a 5% reduction in core fixed income. Staff and Verus plan to present to the Board an implementation plan for bringing the Treasury allocation to its target over a specified period of time.

- Evaluate core fixed income mandates as a source to fund Treasuries
- Review the mandate with Brigade Capital
- Review the mandate with Brandywine

*US Equity Portfolio*

The new asset allocation will require a rebalancing of the existing US equity portfolio. We plan to evaluate our exposure to active management in all areas but particularly in large cap equities.

- Review Brown Advisory and Huber Capital's underperformance
- Consider the addition of more passive equity exposure.
- Review the role of REITs in the US equity portfolio

*International Equity Portfolio*

In 2016, we completed a replacement search in emerging markets and developed international equities. SCERS hired Baillie Gifford and Mondrian to manage the emerging markets exposure in a growth and value style split, respectively. In developed international, SCERS hired Walter Scott to manage the Plan's exposure to growth style equities.

- Evaluate level of REIT exposure in the international equity portfolio

CLIFFWATER LLC

To: Sacramento County Employees' Retirement System
From: Cliffwater LLC
Date: February 7, 2017
Regarding: **Reviewing 2016 in SCERS' Alternative Assets**

2016 was a highly volatile year for capital markets around the globe, in a year that was characterized by voter unpredictability and powerful swings in market sentiment. The year began with a broad sell-off in risk assets that drove equity markets sharply lower through mid-February, only to end the year on a strongly bullish note. Commodities and oil in particular experienced similar price movement while assets perceived to offer safety rallied strongly to start the year. Although central bank policy action once again contributed to increased market volatility, voter decisions around the UK referendum, U.S. election, and the failed Italian referendum proved to be more impactful to markets. The year overall produced strong gains in U.S. and emerging market equities, high yield bonds, and commodities. Performance among developed market equities and higher quality fixed income investments was much more muted, though still positive on the year.

The alternative investments in the Sacramento County Employees' Retirement System ("SCERS") portfolio are broadly diversified across Absolute Return strategies, Private Equity, Real Assets, and other opportunistic investments. Not surprisingly, each of these asset categories has specific roles within the SCERS portfolio. The allocation to alternative investments overall is intended to improve the total portfolio's expected return and risk profile and position SCERS to continue to meet its investment objectives through a variety of market environments. While many of the alternative assets require extended time periods to reach their intended allocations, SCERS has been investing directly in these asset classes for several years and has made significant progress towards meeting its targets. The activity in 2016 has been a continuation of the efforts SCERS has made toward the ongoing implementation of the SCERS long-term investment plan.

*Absolute Return Portfolio*

The SCERS Absolute Return portfolio delivered positive results during 2016 against the backdrop of volatile capital markets and significant swings in investor sentiment. Events during the year that had a meaningful impact on Absolute Return strategies included the rotation from growth-oriented to value-oriented equities, the sharp rebound in energy prices and energy-related credit investments, rapid swings in currency prices, and increased frequency of elevated market volatility. The direct fund investments in the SCERS Absolute Return portfolio each produced positive returns for the year, with some of the funds delivering double digit gains. The aggregate direct fund investments have produced returns that are meeting expectations over both near-term and longer-term time periods. The allocation to the separate account portfolios of Absolute Return funds generated more muted, though still positive, returns for the year.

The risk-adjusted performance of the SCERS Absolute Return portfolio has also been favorable. The portfolio has demonstrated low volatility and has shown only modest sensitivity to movements in the broad equity and fixed income markets. These diversification and risk-reduction characteristics are important attributes of the Absolute Return portfolio, as one of the portfolio's primary objectives is helping to reduce volatility within the total SCERS portfolio. The focus on less correlated investment strategies will continue into 2017 as SCERS begins to implement its new asset allocation.

*Private Equity*

Private equity fundraising began to moderate as we entered 2016, reflecting challenging public equity market conditions and increased global uncertainty through the first few months of the year. However, fundraising activity accelerated after the first quarter and returned to post-financial crisis highs during the year. Fundraising periods (the time it takes private equity managers to raise investor capital for new funds) shortened during the year as investor demand for private equity remained strong. SCERS maintained discipline in deploying capital to new private equity funds over the year, despite the challenges presented by the competitive environment.

New commitment activity within the private equity portfolio reflects the goals of accessing attractive partnership investments to increase SCERS' allocation to private equity and complement existing exposures. New commitments in 2016 included allocations to funds across multiple investment strategies, such as venture capital, specialized debt, and buyout strategies. Many of these funds will target smaller and mid-market investment opportunities, and each has specific areas of focus. These new commitments included commitments to funds that primarily invest domestically as well as to funds that will focus outside of the U.S. The geographic, strategy, and sub-sector composition of SCERS' private equity commitments is important as SCERS further builds a diversified private equity portfolio that is not over-reliant on the success of a particular investing style or strategy.

SCERS has made significant progress towards achieving its long-term desired allocation to private equity over the last few years. SCERS has remained disciplined in its pacing of new commitments, recognizing that vintage year diversification remains an important characteristic of successful private equity programs, while continuing to look for attractive opportunities over varying market conditions. SCERS has also been careful to manage the breadth of its private equity manager relationships by committing to successive funds of proven existing managers, supplemented with new relationships as needed. SCERS has been seeing the benefits of its approach and selective allocations as several of the primary fund investments have generated solid performance gains thus far. The positive performance contributions from many of these funds have helped to improve the return profile of the total portfolio, though the private equity portfolio overall remains relatively young.

*Real Assets*

Oil prices continued to slide into early 2016, with significant declines through mid-February. Oil prices began to rebound in the first quarter, however, and ultimately ended the year nearly 20% higher than where they began. Energy related asset classes, particularly the liquid, actively traded assets, experienced similar volatility with subsequent strong gains through the end of the year. Although the commodity price volatility dampened activity among energy related private real asset managers for much of the year, investor interest in and investment activity among infrastructure and other non-energy private real asset funds increased.

SCERS further developed its private real assets portfolio through 2016, with two new commitments to infrastructure funds, a commitment to a new agriculture fund, and an ongoing rotation of its core real estate exposure. The new infrastructure fund commitments will primarily target large, core infrastructure investments in various geographic regions globally. The agriculture investment is an example of a more specialized mandate, focusing on domestic high value permanent crop farmland and midstream assets. SCERS also continued to evaluate a number of opportunities and execute on new transactions within two of its dedicated separate accounts – one of these accounts is focused on unique infrastructure investments; the second is focused on debt-related investments backed by real assets. Within real estate, SCERS sold select core properties through the year and rotated its core exposure into opportunities that offered better value. SCERS also continued to evaluate niche build-to-core and redevelop-to-core real estate projects, as well as other value-add real estate primarily outside of the U.S. SCERS' ongoing investment activity within the Real Assets portfolio illustrates SCERS' approach to invest across a variety of investment strategies and structures to increase the allocation and meet the real assets portfolio objectives of income generation, inflation protection, and risk factor diversification.

*Looking Ahead*

SCERS conducted an asset allocation study in 2016, ultimately culminating in a new asset allocation framework that was adopted in early 2017. The new strategic asset allocation will, among other things, feature new categorizations of asset classes and a new approach to evaluating the role of certain asset types within the portfolio. While the alternative asset classes will undergo some changes as part of the new asset allocation framework, their ultimate role, and the implementation approach SCERS has taken with these assets, will not change. SCERS has developed a well-defined, rigorous investment process that remains nimble in its ability to target unique opportunities within the alternative asset classes. SCERS has remained diligent in its implementation and has maintained investment discipline investing in these asset classes over a variety of environments. The work SCERS has done in alternative investments over the last several years will help facilitate the continued evolution of the SCERS portfolio into 2017 and beyond.

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**MEMORANDUM**

| | |
|---|---|
| **TO:** | **Sacramento County Employees' Retirement System** |
| **DATE:** | February 2017 |
| **SUBJECT:** | Real Estate Investment Year in Review |
| **FROM:** | **The Townsend Group** |

In 2016, the Sacramento County Employees' Retirement System (SCERS) Real Estate Portfolio (RE Portfolio) continued improving the overall positioning of the real estate portfolio through asset sales and the identification of opportunities that would provide SCERS with downside protection and additional diversification.

In reviewing the 2016 calendar year, we once again reflect upon the active role that the SCERS Staff and Consultants have played in re-balancing the Portfolio. A tremendous amount of time and attention has been dedicated to selling existing assets and positioning the portfolio with accretive investments that will help SCERS to perform well across future real estate cycles.

For global real estate investors, uncertainty continues. Key factors that have further exacerbated an already uncertain global macro environment include the US election and its impact on global trade policy, Brexit and downgraded return expectations in Japan. In 2017, the US entered its eighth consecutive year of recovery, and the real estate cycle is maturing. While real estate remains an attractive investment relative to other asset classes, we caution investors to expect a reversion to the mean. Albeit slowing, generally speaking we continue to observe cap rate compression in the Core sector which has led to strong returns in the NFI-ODCE Index. We are hearing that there is also some re-trading in certain segments of the market. Evidence of this trend occurred in the SCERS Portfolio throughout 2016. At the end of 2015, the NFI-ODCE reported seven consecutive years of net returns in excess of 10% (compared to the long term historical net return of 7.6%, dating to 1978). However, this changed in 2016. For the calendar year ending December 31, 2016 the NFI-ODCE total return fell to 7.79% net, the lowest annual return since 2009. As we continue to observe threats to global stability, we also expect lower economic growth in many regions of the world.

Despite a looming reversion to the mean, we believe there could be an additional 1-3 years of competitive real estate returns given strong fundamentals. In this mature market environment, SCERS and Townsend continue to focus on the following themes:

1. Selling Non-Strategic Assets (program largely complete);
2. Encouraging the liquidation of pre-GFC closed-end commingled funds;
3. Diversifying the Real Estate Portfolio by vintage year, strategy and geographic region;
4. Remaining Selective:
    - Exposing the Portfolio to defensive strategies / regions,
    - Targeting pre-specified portfolios,
    - Negotiating fees to improve net of fee performance,

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- Avoiding excessive use of imprudent leverage,
- Focusing on strategies that generate income to support the total return.

The pipeline of investments under consideration includes strategies centered on themes like China Logistics and European Student Housing, as well as niche US strategies such as Hammes Partners III—which we continue to monitor.

**SCERS Real Estate Portfolio Activities (3Q16)**

The SCERS 2015 investment activity includes the following themes.

- **Core Rebalancing Program**

  In 2015, SCERS continued to rebalance its Core Portfolio through commitments and redemptions from open-end funds and strategic dispositions from the separate account portfolios managed by BlackRock and Cornerstone. As of 3Q2016, the Core Portfolio reported a market value of $519 million, or **6.4%.** SCERS continued to be a net seller of Core real estate over the last three year period while still maintaining its total exposure within the 4.0% to 9.0% permissible range.

  Also note that the exposure to Core Real Estate will reduce further as a result of disposition activity in the separate accounts. Within the Blackrock Core Separate Account, Forest Pointe sold in 3rd quarter and Stonefield sold in 4th quarter. To offset the disposition of Core assets, an additional commitment of $20 million to Townsend Real Estate Fund was approved in December 2016.

| | 2013 | 2014 | 2015 | 2016 (YTD) |
|---|---|---|---|---|
| Acquisitions | • Prime Property Fund<br>• MetLife Core Property Fund | • Jamestown Premier Property Fund<br>• Refinancing of Lake Washington Park (now unlevered) | • Prologis US Targeted Logistics Fund<br>• Prologis European Targeted Logistics Fund<br>• Principal US Property Account<br>• Townsend Real Estate Fund ("TREF") | *No Core acquisitions to date.* |
| Dispositions | • BlackRock Granite Fund (Full Redemption) | • Cornerstone Patriot Fund (Partial Redemption)<br>• Salt Pond<br>• Fontana Industrial<br>• Dupont | • Cornerstone Patriot Fund (Remaining Investment Redemption)<br>• Weston, Inc. | • Gateway Corporate Center<br>• Flying Cloud<br>• Forest Pointe (Closed August 2016)<br>• Stonefield Apartments (October 2016) |

**The chart above categorizes new investments according to the first drawdown or expected drawdown of capital, not the formal commitment date.*

The new Core commitments follow the "relative value investment" thesis. On a stand-alone basis, each fund commitment approved between 2013 and 2015 presented SCERS with an opportunity to invest in a seed portfolio of assets with intrinsic value that we believe will generate near term net of fee returns above SCERS' actuarial rate of return and the long term historical average for Core real estate. On a blended basis, the newly constructed Core portfolio is well diversified by property type and geographic region, albeit with tactical overweights (for example, to US and European Industrial) and forecasted underweights (for example, Multifamily). The Core Portfolio is designed to allow for periodic rebalancing, as each of the new open-end fund commitments has a potential liquidity feature which allows for periodic redemption/contribution.

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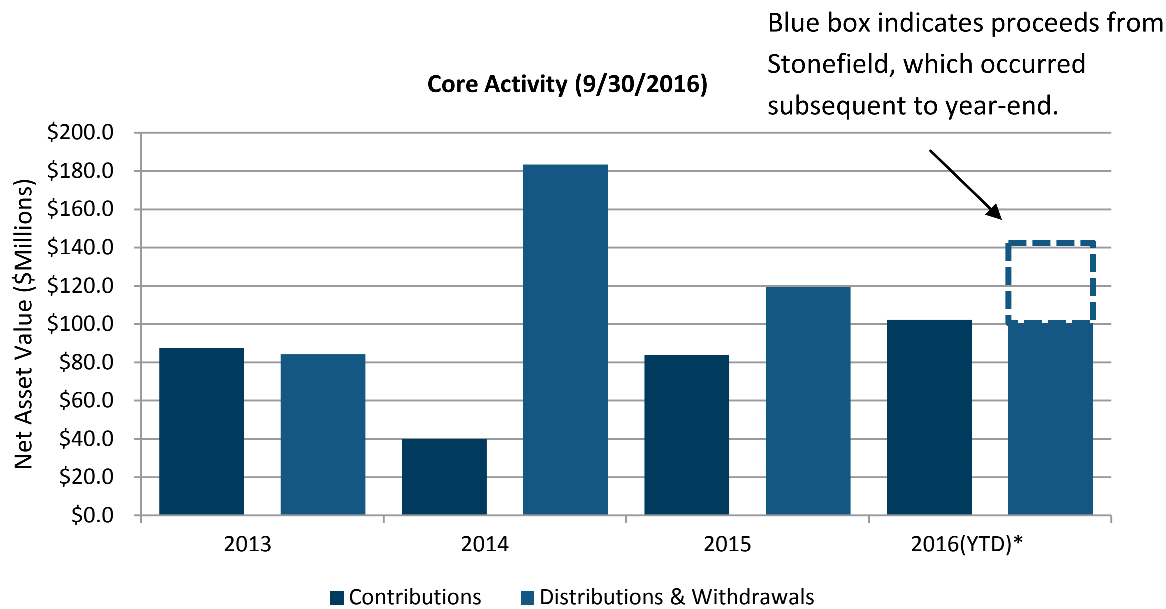
No new Core assets were acquired directly by the SCERS Separate Account managers in 2014, 2015 and 2016. SCERS continues to review the pipeline for attractive opportunities; but due to the competitive market environment for Core real estate, a majority of the direct individual transactions are expected to produce returns below that of the long-term historical average for Core real estate and the SCERS actuarial rate of return.

- In 2016, SCERS and its separate account managers have been focused on dispositions in order to enhance or "upgrade" the quality of the Core Portfolio, especially in a highly competitive environment seeking Core exposure. As SCERS is a relative value investor, SCERS and Townsend recognized that the timing for certain asset sales was optimal in 2014 and 2015. Selling in 2016 was a bit more difficult, as some assets failed to realize the carrying value.




**Dotted box represents distribution from Stonefield sale in the Fourth Quarter 2016*

Based on capital contributions ($102.2 million) and distributions/withdrawals ($100.5 million through 9/30/2016 plus the sale of Stonefield for $42.5 million, of which $41.9 million have been distributed), SCERS will end up being a net seller of Core Real Estate in 2016. On the acquisition side, SCERS added $20 million to its commitment to the Townsend Real Estate Fund. This investment, which is a Core real estate fund containing multiple underlying positions, will be reported as a real estate investment in the SCERS Core Portfolio and is intended to serve as an investment as SCERS receives separate account asset sale and commingled fund distributions. This position, including the incremental $20 million, is expected to be fully funded around the end of First Quarter of 2017.

Recent additions to the Core commingled portfolio have been accretive, each outperforming the NFI-ODCE over the shorter one year and since inception period, net of fees. The true measure of success will be the aggregate Core portfolio over longer periods of time once it is fully re-balanced, which

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was completed in 2016. Going forward, we will continue to re-balance the portfolio (but to a lesser degree) to improve performance.

- **Tactical Non-Core Investment Themes**

- SCERS and Townsend continued to source new Non-Core opportunities in 2016, specifically seeking those that provide SCERS with a "relative value" proposition and/or enhance the diversification for the overall SCERS Program. These allocations pull from the Core real estate and broader real assets allocations. In Non-Core, Townsend and SCERS have been patient to deploy capital. One $17 million commitment was approved in 2016, which is well below the pace of last year ($60 million) and significantly below the pace of deployment in 2014 ($130 million). However, these Non-Core commitments are generally staggered across a three year period, thus SCERS has access to vintage year diversification in 2014, 2015 and 2016. As we move into the later parts of the cycle and approach the target allocation to real estate, we expect to be more patient and selective in the Non-Core space.

***2016 Non-Core Commitment***

Within the opportunistic portfolio, SCERS made its first acquisition within the BlackRock High Return Separate account, Block 295. Block 295 is a joint venture with Cairn Pacific and Capstone Partners to renovate a 4-story office building in Portland, Oregon. The first capital commitment was called from SCERS to fund the construction in 2016 and the Third Quarter of 2016 represented the first full period of performance reported for Block 295. Construction is on pace to be completed in 2017 and SCERS and BlackRock are currently focused on monitoring the development and marketing the space to prospective tenants in the Portland market. An excerpt from the BlackRock Investment Memorandum reads:

> Block 295 represents the opportunity to acquire a well-located office building in the Northwest District of Portland, Oregon. As part of the Con-Way Master Plan, a 17 acre mixed use development, the site will be proximate to 493 apartment units as well as 73,000 SF of new retail space including a New Season's Market (a boutique, high end grocer popular in the Pacific Northwest) directly across the street. The property will offer convenient access to a variety of walkable retail, restaurants and entertainment establishments as well as multiple transportation options including light rail, street car and bus.
>
> Upon the completion of the renovation, the building will be converted into creative office space with open floor plans, exposed walls and ceilings, expansive glass lines, an open air sky bridge and average floor plates of 28,964 square feet. Additionally, the project will include a 15,000 square foot penthouse and a rooftop deck amenity.

*__Overall Portfolio: Continue to Negotiate Attractive Terms & Fees__*

Similar to the previous three years, SCERS and Townsend continued to negotiate "better than market" fees and terms across its real estate investment portfolio. Fee savings will lead to improvement in net of fee performance for Core and Non-Core positions. Term negotiations allow for more flexibility and control.

- Townsend Core Real Estate Fund (2015/2016): SCERS negotiated an Advisory Board Seat and lower total fee (in addition to the favorable fee savings Townsend negotiates for the underlying investments)

**Recap and Vision for 2017**

SCERS Staff and Townsend achieved much in 2016 by way of rebalancing the portfolio, executing strategic asset sales and reviewing/underwriting several new investment opportunities that are expected to provide attractive risk-adjusted returns over the long-term.

For 2017, we are mindful of the various uncertainties and risks that may impact real estate returns yet encouraged by strong fundamentals. The past seven years have delivered outstanding returns, and there are good reasons to anticipate a reversion to the mean. We will continue to pursue our strategic objectives, as approved by SCERS board. On the sell-side, we will continue to monitor pre-GFC closed-end comingled funds and consider the sale of additional non-strategic separate account assets. On the buy-side, we will continue to seek income-oriented opportunities, exercise disciplined underwriting standards and negotiate favorable terms.

We are confident that, over the long-term, the SCERS real estate program will continue to provide attractive income returns, a natural inflation hedge and capital appreciation for its beneficiaries.

# Appendix 4 - 2016/2017 Road Map

| Topic | 2016 Preview | 2016 Actual | 2017 Preview |
|---|---|---|---|
| Consultants | • Assess the need for specialty consultants including operational due diligence in alternative assets | | • Assess the need for specialty consultants including operational due diligence in alternative assets |
| | • Monitor progress of recent consultant merger and sale activity | • (1) Townsend - Staff conducted multiple calls with Townsend in 2016 to better understand new ownership structure; and (2) SIS/Verus - SCERS worked over the past year within the Verus organization executing the asset liability study and two manager searches | |
| Asset Allocation | • Continue implementation on current asset allocation structure; especially within private markets | • Allocated capital to 4 private equity funds, 3 real assets funds, 2 real assets strategic partnership investments, 1 absolute return fund, and initiated a real estate office redevelopment project | • Continue implementation on current asset allocation structure; especially within private markets |
| | • Revisit SCERS' asset allocation and analyze portfolio through different risk lenses | • Conducted an asset liability study in 2016 that resulted in a Board approved asset allocation that is diversified across functional asset categories | • Implement the recently approved asset allocation |

# Appendix 4 - 2016/2017 Road Map (Continued)

| Topic | 2016 Preview | 2016 Actual | 2017 Preview |
|---|---|---|---|
| Equities | • Continue to evaluate alternative forms of passive equity exposure including low volatility equities and derivatives replication strategies | • Conducted research related to alternative forms of passive equity investing | • Evaluate levels of passive exposure within SCERS' public equity portfolio, including alternative forms of passive equity exposure |
| | | | • Restructure and implement the Domestic Equity portfolio to reflect SCERS' new asset allocation |
| | • Conclude the international large cap developed markets manager search - potential to broaden search to include a global equity mandate | • Hired international large cap developed growth manager, Walter Scott, to replace an investment manager that was terminated in 2014 | • Conduct transition of assets into newly hired Walter Scott international large cap developed growth strategy |
| | • Conclude the emerging markets equity all-cap search | • Conducted a manager replacement search in all-cap emerging markets equities, and hired Baillie Gifford and Mondrian Investment Partners | |
| | | | • Restructure and implement the International Equity portfolio to reflect SCERS' new asset allocation |
| Fixed Income | • Continue to evaluate additional forms of credit and fixed income exposures, both liquid and illiquid | • Created a dedicated Private Credit asset class within SCERS' new asset allocation | • Initiate implementation of the Private Credit asset class |
| | | | • Restructure and implement the Fixed Income portfolio to reflect SCERS' new asset allocation |

# Appendix 4 - 2016/2017 Road Map (Continued)

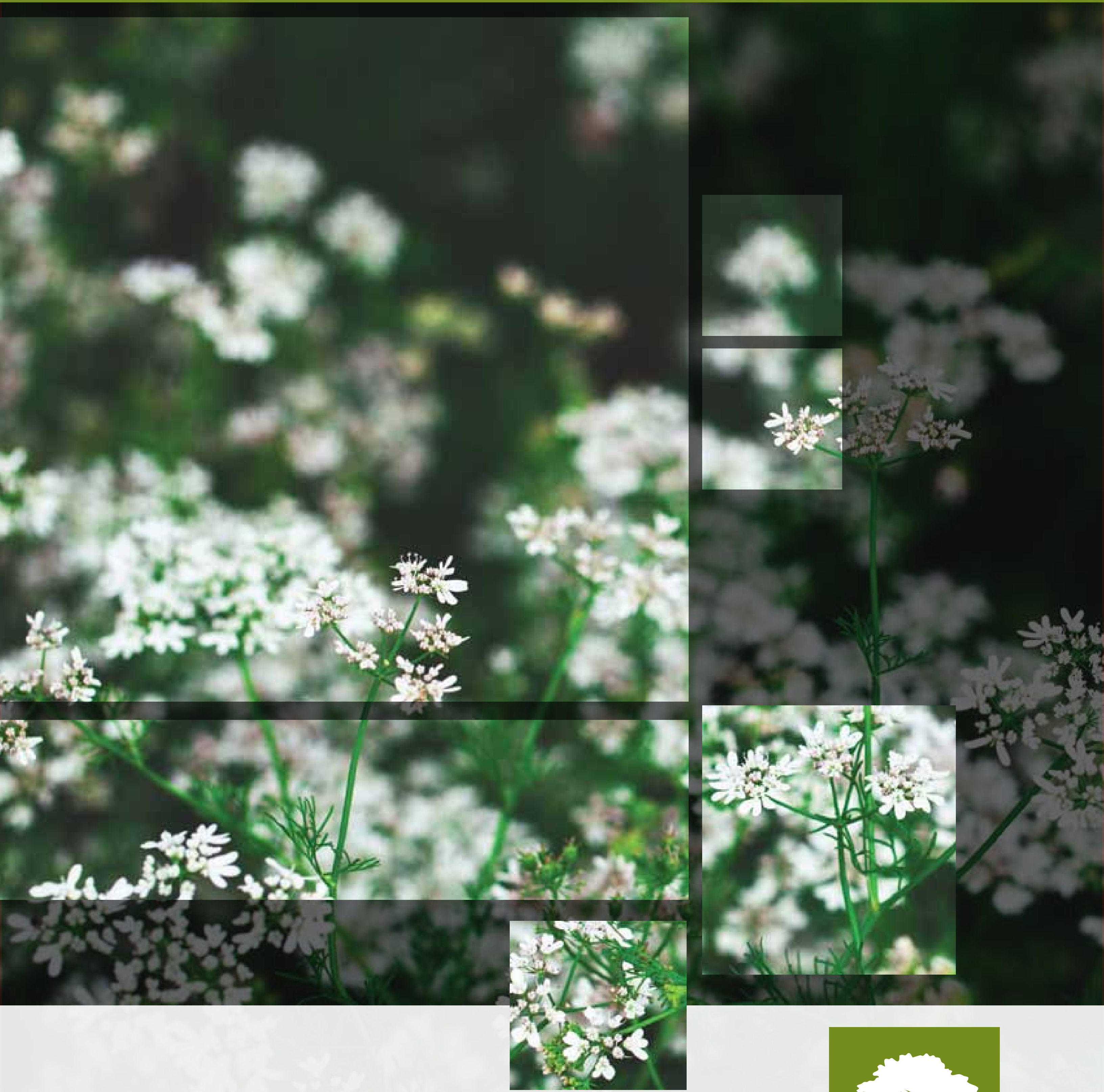
| Topic | 2016 Preview | 2016 Actual | 2017 Preview |
|---|---|---|---|
| Absolute Return | • Evaluate additional potential direct absolute return investments and invest in 2 funds directly | • Identified two systematic macro strategies for investment and finalized one of them | • Evaluate additional potential direct absolute return investments and invest in 2 to 4 funds directly |
| | • Bring in 1-2 current direct absolute return managers for Board education | | • Bring in 1-2 current direct absolute return managers for Board education |
| | • Deepen expertise and capabilities in operational due diligence | | • Deepen expertise and capabilities in operational due diligence |
| | | | • Restructure and implement the Absolute Return portfolio to reflect SCERS' new asset allocation |
| Private Equity | • Identify and commit to 5-10 potential direct private equity investments | • Made 4 direct private equity investments | • Identify and commit to 5-10 potential direct private equity investments |
| | • Continue to assess strategic partners to assist SCERS in fully building out its private equity portfolio within niche segments | • Assessed the landscape for strategic partners to assist SCERS in fully building out its private equity portfolio, but no conclusions were reached | • Continue to assess strategic partners to assist SCERS in fully building out its private equity portfolio within niche segments |
| | • Present annual report on Private Equity and approve 2016 Private Equity annual investment plan | • Presented annual report on Private Equity and approved 2016 Private Equity annual investment plan | • Present annual report on Private Equity and approve 2017 Private Equity annual investment plan |
| | • Bring in 1-2 current direct private equity managers to educate SCERS' Board | | • Bring in 1-2 current direct private equity managers to educate SCERS' Board |
| | | | • Restructure and implement the Private Equity portfolio to reflect SCERS' new asset allocation |

# Appendix 4 - 2016/2017 Road Map (Continued)

| Topic | 2016 Preview | 2016 Actual | 2017 Preview |
|---|---|---|---|
| Real Assets | | • Disposed of 4 separate account real estate properties | |
| | • Assess core real estate commingled fund lineup | • Committed additional capital to an existing open end commingled real estate fund | |
| | • Identify and commit capital to 1-3 primary private real assets funds | • Committed capital to 2 primary private real assets funds | • Identify and commit capital to 1-3 private real assets funds |
| | • Reassess SCERS' overall commodity/ energy exposure | • Maintained commodity/energy exposure and participated in strong 2016 energy rally | |
| | • Continue to underwrite investment opportunities within customized separate accounts in the Real Assets portfolio; using 'veto rights' where appropriate | • Completed two investments in real assets secondary/co-investment separate account | • Continue to underwrite investment opportunities within customized separate accounts in the Real Assets portfolio; using 'veto rights' where appropriate |
| | • Present annual report on Real Assets and approve 2016 Real Assets annual investment plan | • Presented annual report on Real Assets and approved 2016 Real Assets annual investment plan | • Present annual report on Real Assets and approve 2017 Real Assets annual investment plan |
| | • Cautiously identify and evaluate investment opportunities around the significant decline in oil prices | • Participated in opportunities through existing upstream energy partnerships that SCERS is invested in | |
| | | | • Restructure and implement the Real Assets portfolio to reflect SCERS' new asset allocation |
| Opportunities | | • Did not make any additional Opportunities investments in 2016; monitored and oversaw existing investments | |
| | | | |

# Appendix 4 - 2016/2017 Road Map (Continued)

| Topic | 2016 Preview | 2016 Actual | 2017 Preview |
|---|---|---|---|
| Other Investment Activity | • Conduct on-site due diligence of existing managers and real estate property investments | • Oversaw and monitored existing managers and visited two real estate properties | • Conduct on-site due diligence of existing managers and real estate property investments |
| | • Seek to expand SCERS' risk management capabilities | • Conducted research and evaluation of risk management systems in the marketplace | • Seek to expand SCERS' portfolio management/risk management/ investment accounting capabilities |
| | • Revise overall investment policy, including incorporating individual asset class policies | | • Subsequent to the asset allocation study, revise overall investment policy, including incorporating individual asset class policies |
| | • Deepen expertise by increasing capabilities in operational due diligence | | • Deepen expertise by increasing capabilities in operational due diligence |
| | | • Executed on 1 transition - an equity rebalance | |
| | | | |



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