



Sacramento Regional Transit District Agenda

SPECIAL RETIREMENT BOARD MEETING
9:00 A.M., WEDNESDAY, JULY 24, 2019
REGIONAL TRANSIT AUDITORIUM
1400 29TH STREET, SACRAMENTO, CALIFORNIA
Website Address: www.sacrt.com
(29th St. Light Rail Station/Bus 38, 67, 68)

MEETING NOTE: *This is a joint and concurrent meeting of the five independent Retirement Boards for the pension plans for the employees and retirees of the Sacramento Regional Transit District. This single, combined agenda designates which items will be subject to action by which board(s). Members of each board may be present for the other boards' discussions and actions, except during individual closed sessions.*

| | | |
|-------------------------|--------------------------|--|
| <u>ROLL CALL</u> | ATU Retirement Board: | Directors: Li, Kennedy, Niz, McGee Lee Alternates: Jennings, Lucien |
| | IBEW Retirement Board: | Directors: Li, Kennedy, Ohlson, Bibbs Alternates: Jennings, McCleskey |
| | AEA Retirement Board: | Directors: Li, Kennedy, Devorak, Robison Alternates: Jennings, McGoldrick |
| | AFSCME Retirement Board: | Directors: Li, Kennedy, Parks, Guimond Alternates: Jennings, Thompson |
| | MCEG Retirement Board: | Directors: Li, Kennedy, Thorn, Norman Alternates: Jennings, Flores |

PUBLIC ADDRESSES BOARD ON MATTERS ON CONSENT AND MATTERS NOT ON THE AGENDA
At this time the public may address the Retirement Board(s) on subject matters pertaining to Retirement Board business listed on the Consent Calendar, any Closed Sessions or items not listed on the agenda. Remarks may be limited to 3 minutes subject to the discretion of the Common Chair. Members of the public wishing to address one or more of the Boards may submit a "Public Comment Speaker Card" to the Assistant Secretary. While the Retirement Boards encourage your comments, State law prevents the Boards from discussing items that are not set forth on this meeting agenda. The Boards and staff take your comments very seriously and, if appropriate, will follow up on them.

NEW BUSINESS

| | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | <u>ATU</u> | <u>IBEW</u> | <u>AEA</u> | <u>AFSCME</u> | <u>MCEG</u> |
| 1. Information: Educational Session on Alternative Investments Presented by Callan LLC (ALL). (Adelman) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

REPORTS FROM COMMITTEES
REPORTS, IDEAS AND COMMUNICATIONS
ADJOURN

NOTICE TO THE PUBLIC

It is the policy of the Boards of Directors of the Sacramento Regional Transit District Retirement Plans to encourage participation in the meetings of the Boards of Directors. At each open meeting, members of the public shall be provided with an opportunity to directly address the Board on items of interest to the public that are within the subject matter jurisdiction of the Boards.

This agenda may be amended up to 72 hours prior to the meeting being held. An agenda, in final form, is located by the front door of Regional Transit's building at 1400 – 29th Street and posted to RT's website at www.sacrt.com.

Any person(s) requiring accessible formats of the agenda or assisted listening devices/sign language interpreters should contact the Pension Administrator at 916-556-0296 or TDD 916/483-4327 at least 72 business hours in advance of the Board Meeting.

Copies of staff reports or other written documentation relating to each item of business referred to on the agenda are on file with the Human Resources Administrative Technician at 916-556-0298 and/or Clerk to the Board of Directors of the Sacramento Regional Transit District and are available for public inspection at 1400 29th Street, Sacramento, CA. Any person who has questions concerning any agenda item may call the Human Resources Administrative Technician of Sacramento Regional Transit District to make inquiry.

REGIONAL TRANSIT ISSUE PAPER

| Agenda Item No. | Board Meeting Date | Open/Closed Session | Information/Action Item | Issue Date |
|-----------------|--------------------|---------------------|-------------------------|------------|
| 1 | 07/24/19 | Retirement | Information | 07/02/19 |

Subject: Educational Session on Alternative Investments Presented by Callan LLC (All). (Adelman)

ISSUE

Educational Session on Alternative Investments Presented by Callan LLC (All). (Adelman)

RECOMMENDED ACTION

Information only.

FISCAL IMPACT

None.

DISCUSSION

At their June 2019 joint Quarterly meeting, the Sacramento Regional Transit District Retirement Boards received the pension plans' Asset/Liability Study for 2019 from Callan LLC (Callan). In anticipation of receiving the study, the Boards requested and Callan provided training presentations including information and answers to questions regarding (1) hedge funds and multi-asset class investments (September 12, 2018 Quarterly Retirement Board Meeting), (2) private equity investments (December 12, 2018 Quarterly Retirement Board Meeting), and (3) Real Estate Investments (March 20, 2019 Quarterly Retirement Board Meeting).

As part of the Asset/Liability Study, Callan examined two sets of optimal investment mixes in addition to the current portfolio: 1) current asset classes with the addition of real estate, and 2) current asset classes with the addition of real estate, private equity and hedge funds. Based on its projections, liability modeling, including liquidity needs, and stochastic forecasting, Callan observed that the current target asset allocation would be reasonable to retain going forward, although further diversification by including real estate investments offers a potentially attractive source of return that would complement and diversify the existing portfolio, and thereby reduce risk. Callan's recommended option, should the Boards wish to further diversify the portfolio, includes an allocation of 10% to real estate, to be funded by reducing current allocations to both equity and fixed income (referred to in the Study as "Mix 3R").

The Boards discussed Callan's observations and recommendation, and asked that Callan provide the Boards with additional information regarding real estate and private equity investments. Callan is providing this educational session to address alternative investments, as requested, with a focus on private equity and real estate investments, and will describe the

Approved:

Presented:

Final 07/11/19

VP of Finance and Procurement/CFO

Director, Treasury and Finance

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REGIONAL TRANSIT ISSUE PAPER

| Agenda Item No. | Board Meeting Date | Open/Closed Session | Information/Action Item | Issue Date |
|-----------------|--------------------|---------------------|-------------------------|------------|
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(Adelman)

potential risks and returns, liquidity features, and diversification roles of the various asset classes in a pension plan's investment portfolio.

Attachment 1 is the educational materials, provided by Callan, for alternative investments.

Callan



July 24, 2019

**Sacramento Regional
Transit District**

Special Meeting

Anne Heaphy

Fund Sponsor Consulting

Uvan Tseng, CFA

Fund Sponsor Consulting

Callan

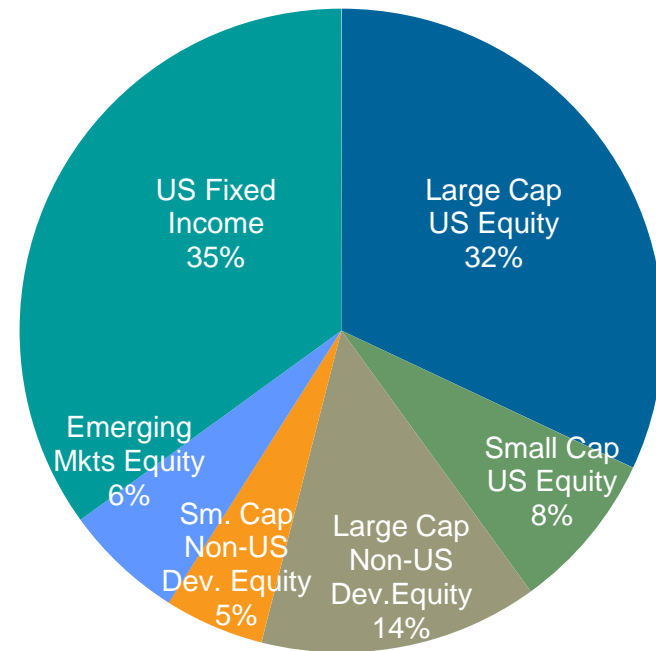
Asset/Liability Study Overview

Executive Summary

- Sacramento Regional Transit District (“RT”) needs a tilt toward growth assets to serve the goal of funding the plan and the current policy target contains such a tilt.
- The current target is diversified across stocks and bonds and would be reasonable policy target to retain going forward.
 - Liquidity needs are manageable and low
 - Liability growth is moderate over the next 10 years
 - After taking into account different inflation expectations, Callan models the liability growth rate as 6.90%, which is slightly less than the 7.25% actuarial discount rate.
- RT can also consider further diversification, and Callan believes real estate in particular offers a potentially attractive source of return that would complement and diversify the existing portfolio.
 - Of course, there are cost and implementation considerations to take into account
- The liability and demographic profiles suggest RT has a sufficiently long time horizon in which to assume investment risk.

Policy Target Allocation

| Asset Class | Policy Target |
|------------------------------------|---------------|
| Global Equity | 65% |
| Large Cap US Equity | 32% |
| Small Cap US Equity | 8% |
| Large Cap Non-US Developed Equity | 14% |
| Small Cap Non-US Developed Equity | 5% |
| Emerging Markets Equity | 6% |
| Fixed Income | 35% |
| US Fixed Income | 35% |
| Expected Return | 6.48% |
| Expected Standard Deviation | 11.89% |



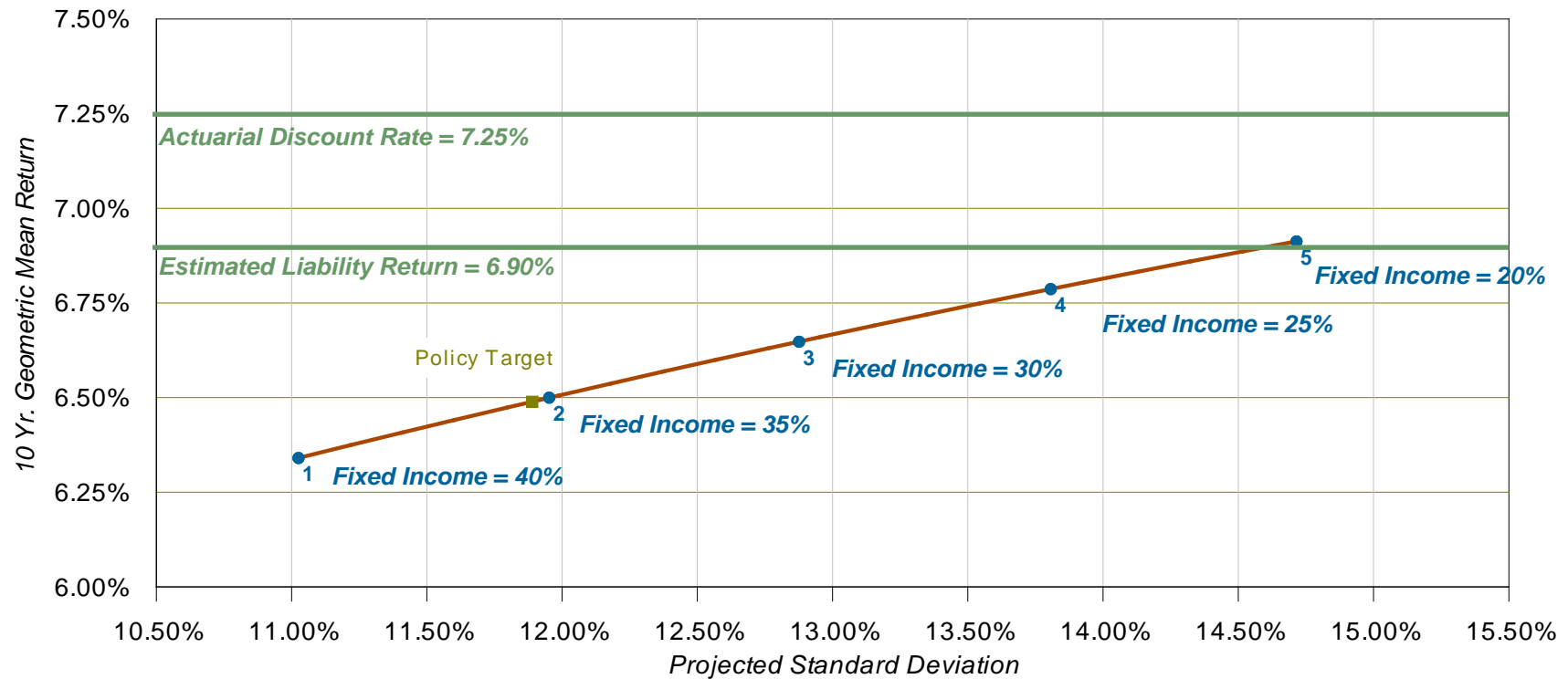
- RT employs an actuarial discount rate of 7.25% which is based on a 3.0% inflation expectation while Callan uses a 2.25% inflation expectation.
- Callan expects lower inflation to flow through the liabilities and result in a lower liability growth rate of 6.90% (vs. the actuarial discount rate of 7.25%).
- Expected returns assume passive implementation; however, roughly 80% of RT's assets are actively managed.

Alternative Asset Mixes With Current Asset Classes

| Asset Class | Policy Target | Mix 1 | Mix 2 | Mix 3 | Mix 4 | Mix 5 |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Global Equity | 65% | 60% | 65% | 70% | 75% | 80% |
| Large Cap US Equity | 32% | 29% | 31% | 33% | 36% | 38% |
| Small Cap US Equity | 8% | 8% | 8% | 9% | 10% | 10% |
| Large Cap Non-US Developed Equity | 14% | 13% | 14% | 15% | 16% | 17% |
| Small Cap Non-US Developed Equity | 5% | 5% | 5% | 5% | 6% | 6% |
| Emerging Markets Equity | 6% | 6% | 7% | 7% | 8% | 9% |
| Fixed Income | 35% | 40% | 35% | 30% | 25% | 20% |
| US Fixed Income | 35% | 40% | 35% | 30% | 25% | 20% |
| Expected Return | 6.48% | 6.34% | 6.50% | 6.65% | 6.79% | 6.91% |
| Expected Standard Deviation | 11.89% | 11.06% | 11.99% | 12.92% | 13.86% | 14.77% |

- The optimal mixes are constructed with decreasing allocations to fixed income (from 40% to 20%); Mix 1 is the most conservative while Mix 5 is the most aggressive.
- As the fixed income allocation decreases the expected portfolio return increases, but so does the expected risk.

The Efficient Frontier



- The efficient frontier represents mixes which optimally trade off between expected return and expected risk; the numbered dots represent optimal mixes 1 – 5, detailed on the previous slide.
- Mix 5 delivers a return close to the expected liability return.

Callan

**New Asset Class Considered:
Private Real Estate**

Private Real Estate Property Types

Four Main Property Types

| Office | Apartment | Industrial | Retail | Other |
|--|--------------------------------|------------------------------------|--|--|
| Class A, B, C Suburban, Central Business District | Garden, High Rise | Warehouse, Logistics, Flex, R&D | Regional Malls, Neighborhood Shopping Centers, Big Box Retail | Hotel, Self Storage, Senior/Student Housing, Data Centers, Land, Mixed-Use |
| Long Term Leases 5-10 years | Short Term Leases 1 year | Medium Term Leases 3-5 years | Broad Lease Terms 3-10 years | |
| Capital Intensive | Modest Capital Requirements | Limited Capital Requirements | Modest Capital Requirements | |

Source: Callan Research

Core Private Real Estate – A Closer Look

Core real estate is the most conservative equity real estate approach

Most prevalent in institutional portfolios given that core provides the benefits sought by Investors:

- Stable, predictable income
 - Typically at least 75% of return is derived from income (distributed quarterly)
- Lower observed volatility
 - Low correlations to stocks and bonds, inflation protection characteristics
- Increased liquidity & quicker deployment of capital relative to other types of real estate investments

At the Asset Level:

- Major property type: office, multifamily, retail & industrial
- Located in economically diversified metropolitan areas
- High quality existing property - modern/high quality construction and design features
- At least 70% leased upon purchase
- Investment structures using all cash or limited leverage (less than 40%)

At the Portfolio Level:

- Diversification by geography and property type
- Staggered lease and debt maturity schedules
- Roster of high quality, creditworthy tenants, with diversification by industry

Implementation and Monitoring:

- Investment vehicles include: commingled funds and separate accounts
- Most portfolios are benchmarked against the NCREIF ODCE Index
- Assets typically appraised at least annually by a third-party appraiser
 - Managers also conduct internal appraisals of each asset, usually quarterly

Pros & Cons of Investing in Private Real Estate

Benefits

- Competitive returns
- Diversification benefits when added to portfolios of stocks and bonds
- Low correlations with stocks and bonds
- Strong income component
- Inflation protection characteristics
- Inefficiency creates return opportunities

Considerations

- Illiquid
- Management intensive/ implementation risks
- High fees compared to traditional asset classes
- Lack of investable indices; benchmarking issues
- All real estate is cyclical
- Not valued daily

Historical Annualized Return Comparisons*

Annualized Returns
for Periods Ended March 31, 2019

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years |
|----------------------------------|--------------|-----------|--------------|--------------|---------------|---------------|---------------|---------------|
| US Equity | | | | | | | | |
| Russell 3000 Index | 14.04 | 8.77 | 13.48 | 10.36 | 16.00 | 8.68 | 6.48 | 9.78 |
| Non-US Equity | | | | | | | | |
| MSCI ACWI ex-US IMI Index | 10.31 | (4.96) | 7.94 | 2.67 | 9.20 | 5.80 | 4.97 | -- |
| US Fixed Income | | | | | | | | |
| Bloomberg Aggregate Index | 2.94 | 4.48 | 2.03 | 2.74 | 3.77 | 3.89 | 4.73 | 5.33 |
| Private Real Estate | | | | | | | | |
| NCREIF NFI-ODCE Equal Weight Net | 1.48 | 6.80 | 7.26 | 9.42 | 7.52 | 7.00 | 7.25 | 7.84 |

*Past performance is no guarantee of future results

Historical Calendar Year Return Comparisons*

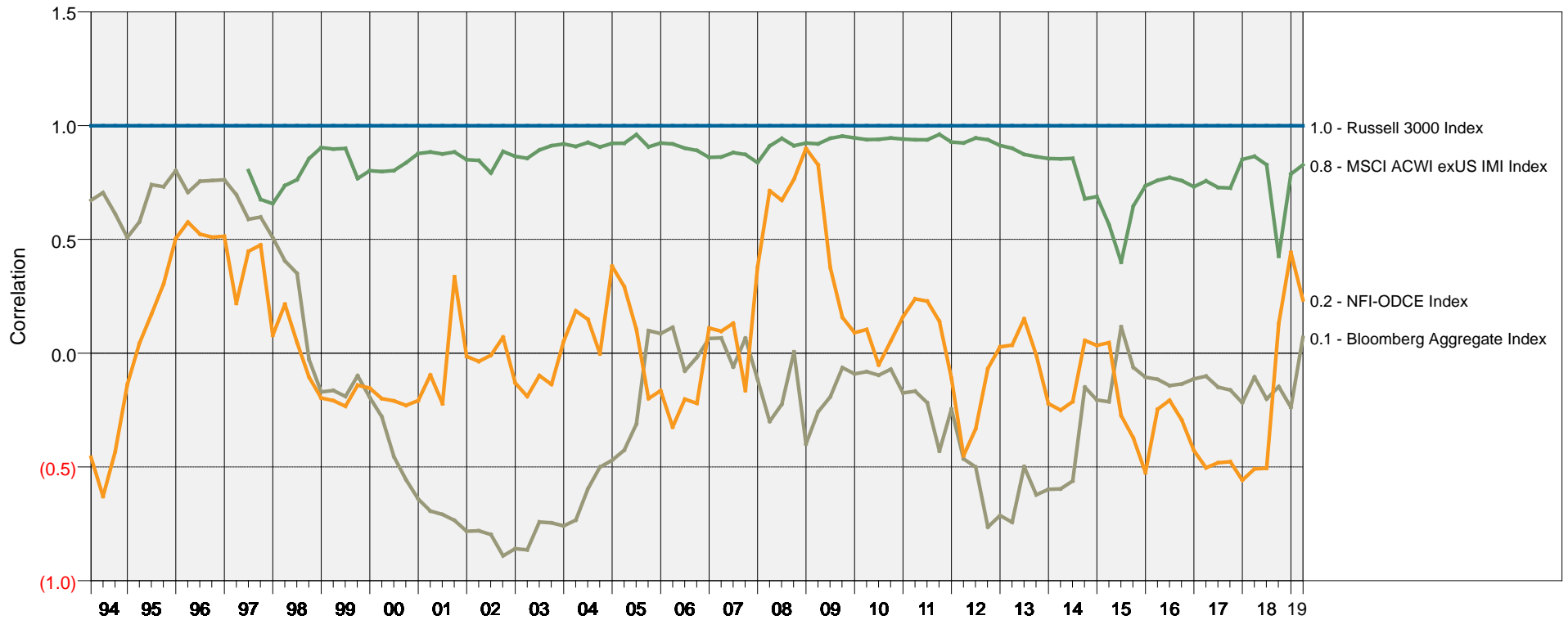
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---------------------------------|---------|-------|-------|--------|--------|--------|-------|---------|-------|
| US Equity | | | | | | | | | |
| Russell 3000 Index | (5.24) | 21.13 | 12.74 | 0.48 | 12.56 | 33.55 | 16.42 | 1.03 | 16.93 |
| Non-US Equity | | | | | | | | | |
| MSCI ACWI ex-US IMI Index | (14.76) | 27.81 | 4.41 | (4.60) | (3.89) | 15.82 | 17.04 | (14.31) | 12.73 |
| US Fixed Income | | | | | | | | | |
| Bloomberg Aggregate Index | 0.01 | 3.54 | 2.65 | 0.55 | 5.97 | (2.02) | 4.21 | 7.84 | 6.54 |
| Private Real Estate | | | | | | | | | |
| NFI-ODCE Equal Weight Net Index | 7.30 | 6.92 | 8.36 | 14.18 | 11.42 | 12.36 | 9.93 | 14.99 | 15.12 |

| | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 |
|---------------------------------|---------|---------|-------|-------|-------|-------|-------|---------|---------|---------|
| US Equity | | | | | | | | | | |
| Russell 3000 Index | 28.34 | (37.31) | 5.14 | 15.72 | 6.12 | 11.95 | 31.06 | (21.54) | (11.46) | (7.46) |
| Non-US Equity | | | | | | | | | | |
| MSCI ACWI ex-US IMI Index | 43.60 | (45.99) | 16.13 | 26.51 | 17.68 | 21.93 | 42.34 | (12.94) | (19.83) | (19.44) |
| US Fixed Income | | | | | | | | | | |
| Bloomberg Aggregate Index | 5.93 | 5.24 | 6.97 | 4.33 | 2.43 | 4.34 | 4.10 | 10.26 | 8.43 | 11.63 |
| Private Real Estate | | | | | | | | | | |
| NFI-ODCE Equal Weight Net Index | (31.30) | (11.09) | 14.99 | 15.10 | 19.04 | 11.51 | 8.16 | 4.39 | 4.72 | 12.42 |

*Past performance is no guarantee of future results

Historical Rolling 3 Year Correlation

Rolling 3 Year Correlation Relative To Russell:3000 Index
for 25 Years Ended March 31, 2019



2019 - 2028 Projected Return and Risk Assumptions

| Asset Class | Index | Expected Return* | Standard Deviation |
|-------------------------|---------------------------------|------------------|--------------------|
| Equities | | | |
| Broad Domestic Equity | Russell 3000 | 7.15% | 17.95% |
| Large Cap | S&P 500 | 7.00% | 17.10% |
| Small/Mid Cap | Russell 2500 | 7.25% | 22.65% |
| Global ex-US Equity | MSCI ACWI ex USA | 7.25% | 21.10% |
| International Equity | MSCI World ex USA | 7.00% | 19.75% |
| Emerging Markets Equity | MSCI Emerging Markets | 7.25% | 27.45% |
| Fixed Income | | | |
| Short Duration | Bloomberg Barclays 1-3 Yr G/C | 3.40% | 2.10% |
| Domestic Fixed | Bloomberg Barclays Aggregate | 3.75% | 3.75% |
| Long Duration | Bloomberg Barclays Long G/C | 3.75% | 10.65% |
| TIPS | Bloomberg Barclays TIPS | 3.75% | 5.05% |
| High Yield | Bloomberg Barclays High Yield | 5.35% | 10.35% |
| Non-US Fixed | Bloomberg Barclays Gbl Agg xUSD | 1.40% | 9.20% |
| Emerging Market Debt | EMBI Global Diversified | 5.05% | 9.50% |
| Other | | | |
| Real Estate | NCREIF ODCE | 6.25% | 15.70% |
| Private Equity | Cambridge Private Equity | 8.50% | 29.30% |
| Hedge Funds | Callan Hedge FoF Database | 5.50% | 8.85% |
| Commodities | Bloomberg Commodity | 3.20% | 18.00% |
| Cash Equivalents | 90-Day T-Bill | 2.50% | 0.90% |
| Inflation | CPI-U | 2.25% | 1.50% |



* 10 year annualized return

- Capital market expectations represent passive exposure (beta only) with the exception of Real Estate, Private Equity, and Hedge Funds.
- All return expectations are net of fees.
- Sacramento RT's current asset classes are highlighted in green.

Projected Return & Risk for Asset Mixes with Real Estate

| Asset Class | Policy Target | Mix 1R | Mix 2R | Mix 3R | Mix 4R | Mix 5R |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Global Equity | 65% | 53% | 58% | 63% | 68% | 73% |
| Large Cap US Equity | 32% | 25% | 28% | 30% | 32% | 34% |
| Small Cap US Equity | 8% | 6% | 7% | 8% | 9% | 9% |
| Large Cap Non-US Developed Equity | 14% | 12% | 13% | 14% | 15% | 16% |
| Small Cap Non-US Developed Equity | 5% | 4% | 4% | 5% | 5% | 6% |
| Emerging Markets Equity | 6% | 6% | 6% | 6% | 7% | 8% |
| Fixed Income | 35% | 37% | 32% | 27% | 22% | 17% |
| US Fixed Income | 35% | 37% | 32% | 27% | 22% | 17% |
| Alternative Assets | 0% | 10% | 10% | 10% | 10% | 10% |
| Private Real Estate | 0% | 10% | 10% | 10% | 10% | 10% |
| Expected Return | 6.48% | 6.34% | 6.50% | 6.65% | 6.79% | 6.91% |
| Expected Standard Deviation | 11.89% | 10.95% | 11.87% | 12.78% | 13.71% | 14.61% |

- The real estate mixes are constructed keeping the returns the same from the simulated mixes.
- Real Estate constrained to 10% maximum.
- At each level of return, volatility decreases between 10-20 bps relative to the simulated mixes.

Hypothetical Historical Performance with Real Estate

Annualized Returns

Annualized Returns for Periods Ended March 31, 2019

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years |
|--|-----------------|--------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| SacRT - Actual Total Fund Return | 7.80 | 3.08 | 8.16 | 5.74 | 10.67 | 7.02 | 6.11 | 8.74 |
| SacRT - Actual Target Return | 9.07 | 3.55 | 8.24 | 5.85 | 9.87 | 6.32 | 5.72 | 7.47 |
| SacRT - Hypothetical Target Return w/Real Estate | 8.06 | 3.69 | 8.05 | 6.17 | 9.73 | 6.49 | 6.00 | 7.63 |

SacRT – Actual Total Fund Return: represents the actual performance of the Fund and its managers.

SacRT – Actual Target Return: represents the performance of the Fund’s target allocation (passive implementation).

SacRT – Hypothetical Target Return with Real Estate: represents theoretical performance of the Fund’s target allocation with a 10% real estate allocation included over the last 25 years taken pro-rata from the equity and fixed income allocations. See page 23 in the appendix for the allocations.

Hypothetical Historical Performance with Real Estate

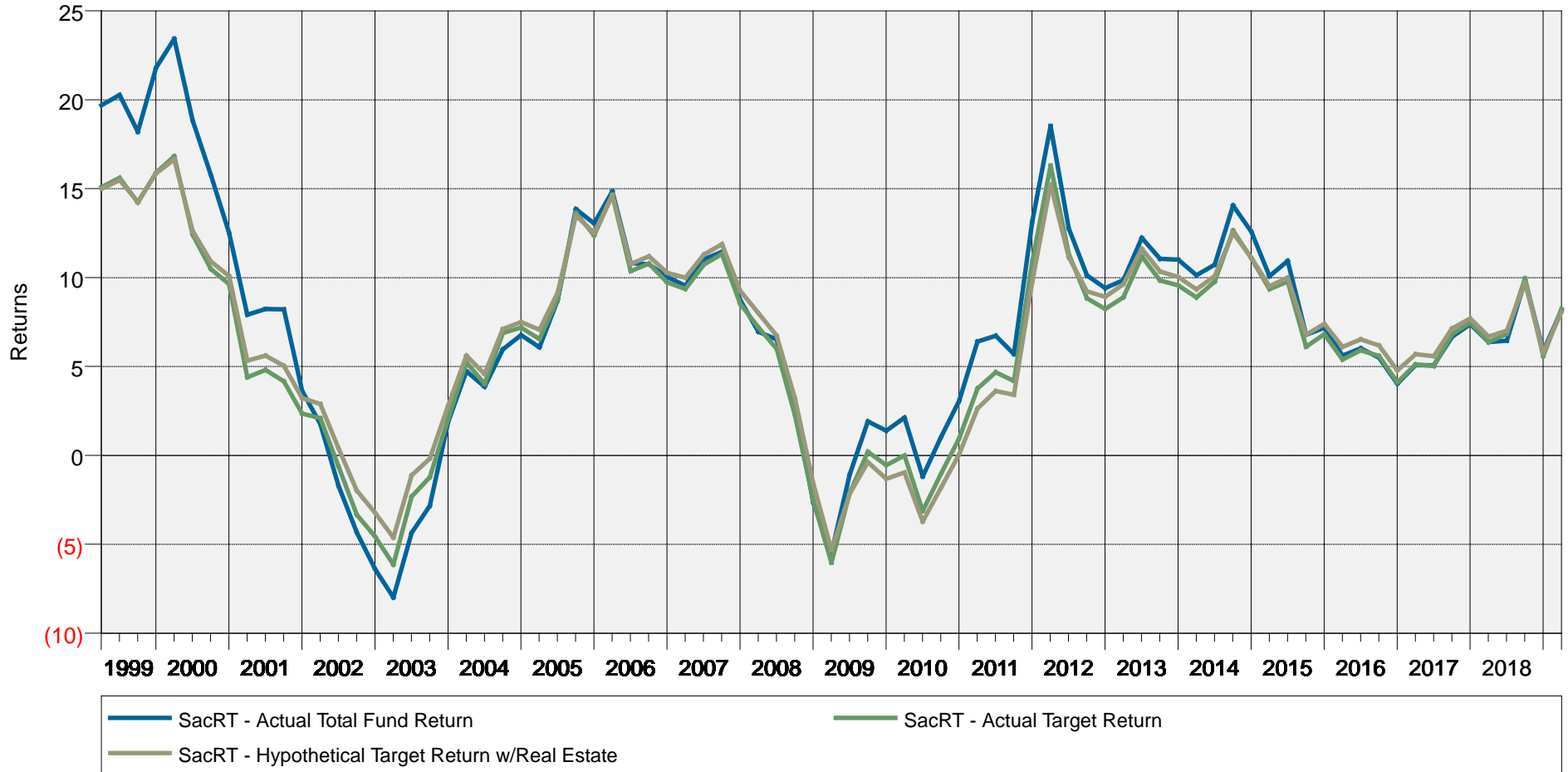
Calendar Year Returns

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|--|--------|-------|------|--------|------|-------|-------|------|-------|
| SacRT - Actual Total Fund Return | (5.05) | 16.14 | 7.65 | (0.97) | 5.61 | 17.71 | 14.80 | 1.22 | 12.70 |
| SacRT - Actual Target Return | (5.82) | 16.39 | 7.40 | (0.71) | 5.82 | 15.99 | 11.68 | 1.52 | 11.85 |
| SacRT - Hypothetical Target Return w/Real Estate | (4.60) | 15.51 | 7.42 | 0.70 | 6.32 | 15.71 | 11.52 | 3.22 | 12.24 |

| | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 |
|--|-------|---------|------|-------|------|-------|-------|---------|--------|--------|
| SacRT - Actual Total Fund Return | 26.91 | (23.45) | 7.29 | 12.35 | 6.69 | 11.17 | 21.82 | (10.14) | (3.36) | (5.57) |
| SacRT - Actual Target Return | 20.02 | (23.33) | 6.92 | 12.98 | 5.81 | 10.51 | 21.36 | (8.18) | (4.59) | (0.80) |
| SacRT - Hypothetical Target Return w/Real Estate | 14.10 | (21.76) | 7.66 | 13.23 | 7.01 | 10.66 | 20.26 | (6.65) | (3.21) | 0.30 |

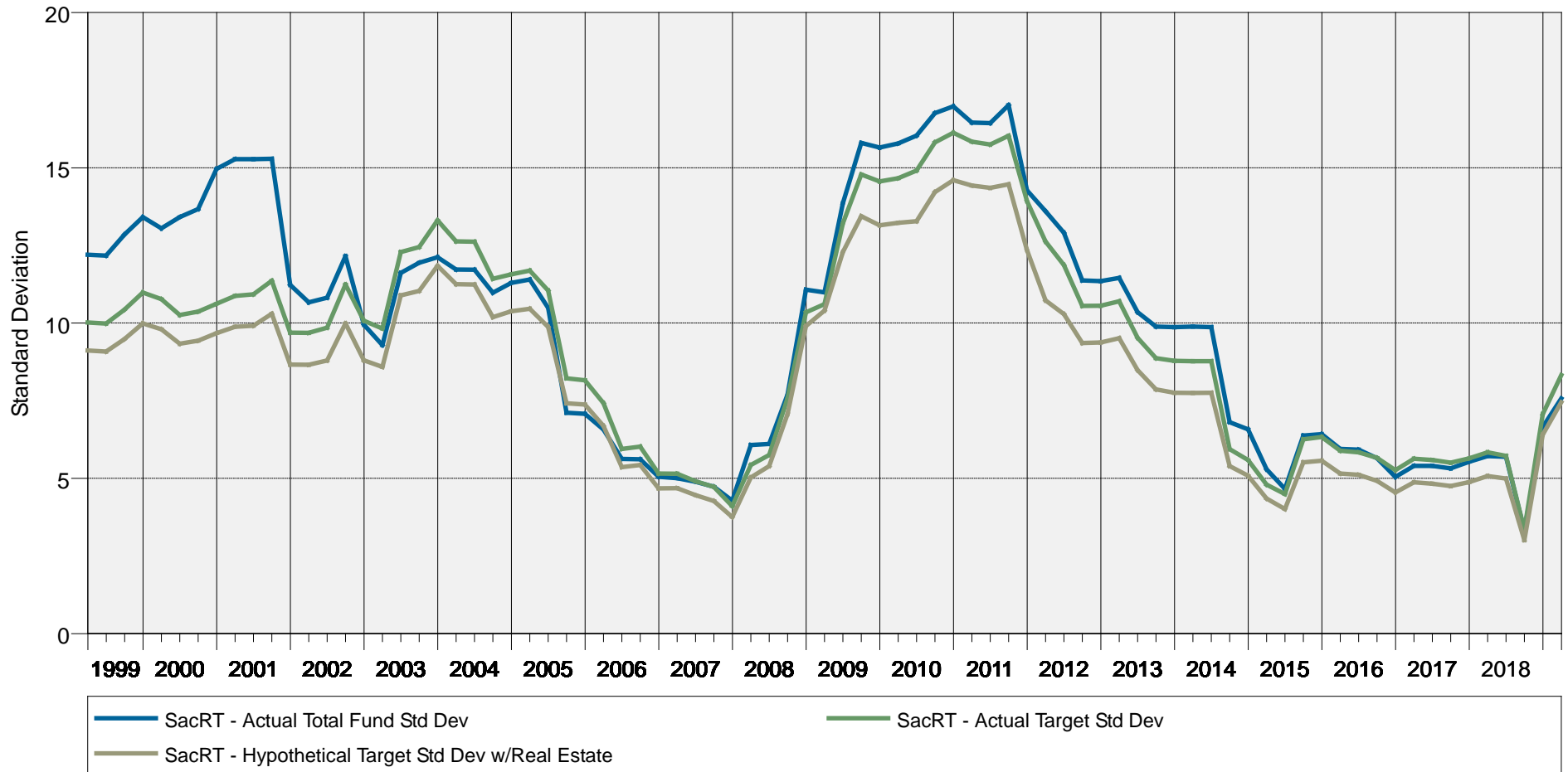
Hypothetical Historical Performance with Real Estate

Rolling 12 Quarter Returns
for 20 Years Ended March 31, 2019



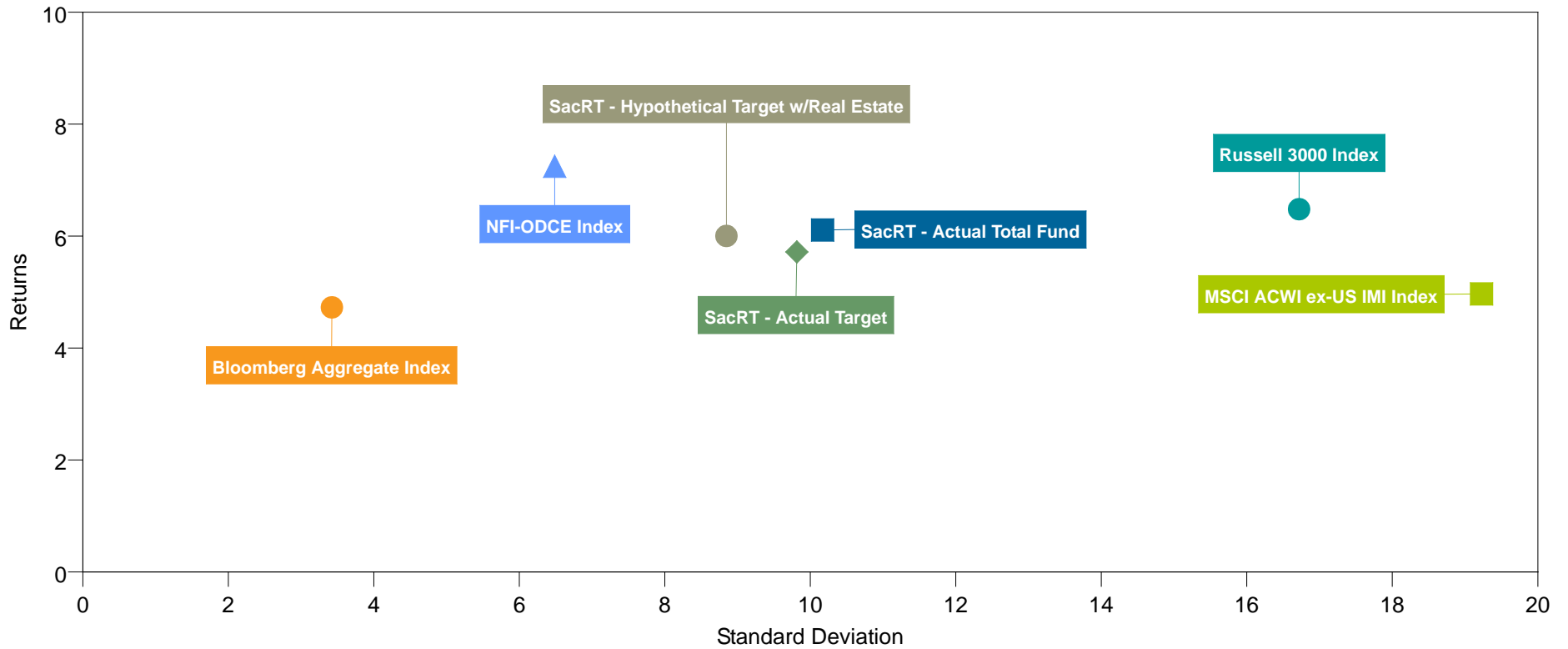
Hypothetical Historical Standard Deviation (Risk) with Real Estate

Rolling 12 Quarter Standard Deviation
for 20 Years Ended March 31, 2019



Historical Risk/Return

20 Years Ended March 31, 2019



Conclusion

The current target is diversified across stocks and bonds, and it would be reasonable to retain it as the policy target going forward.

RT can also consider further diversification, and Callan believes real estate in particular offers a potentially attractive source of return that would complement and diversify the existing portfolio.

- Of course, there are cost and implementation considerations to take into account
- Fees are higher than traditional asset classes (around 1%)
- Less liquid – contributions/distributions occur quarterly and may have a queue

A 10% allocation to real estate, funded from both stocks and bonds, is compelling for several reasons:

- Diversifier to equities and fixed income
- Lagged valuation process helps smooth out volatility
- Intermediate to long term inflation hedge
- Potential to add active management premium

Callan

Appendix

SacRT Actual Target & Hypothetical Target Allocations w/Real Estate

| December 31, 1990 - June 30, 2010 | | Actual | Hypothetical |
|-----------------------------------|-----------------------------|--------|--------------|
| US Large Cap Equity | S&P 500 Index | 34% | 31% |
| US Small/Mid Cap Equity | Russell 2500 Index | 8% | 7% |
| Large Cap Non-US Developed Equity | MSCI EAFE Index | 18% | 16% |
| Fixed Income | Bloomberg Aggregate Index | 40% | 36% |
| Real Estate | NFI-ODCE Equal Weight Index | | 10% |

| June 30, 2010 - June 30, 2013 | | Actual | Hypothetical |
|-----------------------------------|-----------------------------|--------|--------------|
| US Large Cap Equity | S&P 500 Index | 34% | 31% |
| US Small/Mid Cap Equity | Russell 2000 Index | 8% | 7% |
| Large Cap Non-US Developed Equity | MSCI EAFE Index | 18% | 16% |
| Fixed Income | Bloomberg Aggregate Index | 40% | 36% |
| Real Estate | NFI-ODCE Equal Weight Index | | 10% |

| June 30, 2013 - April 30, 2015 | | Actual | Hypothetical |
|-----------------------------------|-----------------------------|--------|--------------|
| US Large Cap Equity | S&P 500 Index | 30% | 27% |
| US Small Cap Equity | Russell 2000 Index | 7% | 6% |
| Large Cap Non-US Developed Equity | MSCI EAFE Index | 18% | 16% |
| Emerging Markets Equity | MSCI Emerging Markets Index | 5% | 5% |
| Fixed Income | Bloomberg Aggregate Index | 40% | 36% |
| Real Estate | NFI-ODCE Equal Weight Index | | 10% |

| April 30, 2015 - July 31, 2016 | | Actual | Hypothetical |
|-----------------------------------|-----------------------------|--------|--------------|
| US Large Cap Equity | S&P 500 Index | 32% | 29% |
| US Small Cap Equity | Russell 2000 Index | 8% | 7% |
| Large Cap Non-US Developed Equity | MSCI EAFE Index | 19% | 17% |
| Emerging Markets Equity | MSCI Emerging Markets Index | 6% | 5% |
| Fixed Income | Bloomberg Aggregate Index | 35% | 32% |
| Real Estate | NFI-ODCE Equal Weight Index | | 10% |

| July 31, 2016 - Present | | Actual | Hypothetical |
|-----------------------------------|-----------------------------|--------|--------------|
| US Large Cap Equity | S&P 500 Index | 32% | 29% |
| US Small Cap Equity | Russell 2000 Index | 8% | 7% |
| Large Cap Non-US Developed Equity | MSCI EAFE Index | 14% | 13% |
| Small Cap Non-US Developed Equity | MSCI EAFE Small Cap Index | 5% | 5% |
| Emerging Markets Equity | MSCI Emerging Markets Index | 6% | 5% |
| Fixed Income | Bloomberg Aggregate Index | 35% | 32% |
| Real Estate | NFI-ODCE Equal Weight Index | | 10% |

Historical Annualized Return Comparisons

Returns for Periods ended March 31, 2019

| | 1 Quarter | 1 Year | 5 Years | 10 Years | 25 Years |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| U.S. Equity | | | | | |
| Russell 3000 | 14.04 | 8.77 | 10.36 | 16.00 | 9.78 |
| S&P 500 | 13.65 | 9.50 | 10.91 | 15.92 | 9.80 |
| Russell 2000 | 14.58 | 2.05 | 7.05 | 15.36 | 8.99 |
| Non-U.S. Equity | | | | | |
| MSCI World ex USA | 10.45 | -3.14 | 2.20 | 8.82 | 5.04 |
| MSCI Emerging Markets | 9.93 | -7.40 | 3.68 | 8.95 | -- |
| MSCI ACWI ex USA Small Cap | 10.26 | -9.48 | 3.26 | 11.86 | -- |
| Fixed Income | | | | | |
| Bloomberg Barclays Aggregate | 2.94 | 4.48 | 2.74 | 3.77 | 5.33 |
| 3-Month T-Bill | 0.60 | 2.12 | 0.74 | 0.43 | 2.54 |
| Bloomberg Barclays Long Gov/Credit | 6.45 | 5.24 | 5.35 | 7.23 | 7.34 |
| Bloomberg Barclays Global Agg ex-US | 1.52 | -4.13 | -0.26 | 2.46 | 4.40 |
| Real Estate | | | | | |
| NCREIF Property | 1.80 | 6.83 | 9.13 | 8.50 | 9.36 |
| FTSE NAREIT Equity | 16.33 | 20.86 | 9.12 | 18.28 | 10.27 |
| Alternatives | | | | | |
| CS Hedge Fund | 3.99 | 0.20 | 2.26 | 5.42 | 7.72 |
| Cambridge Private Equity* | -0.53 | 10.61 | 11.94 | 13.76 | 15.20 |
| Bloomberg Commodity | 6.32 | -5.25 | -8.92 | -2.56 | 2.15 |
| Gold Spot Price | 1.34 | -2.17 | 0.23 | 3.45 | 4.88 |
| Inflation - CPI-U | 1.18 | 1.86 | 1.47 | 1.80 | 2.21 |

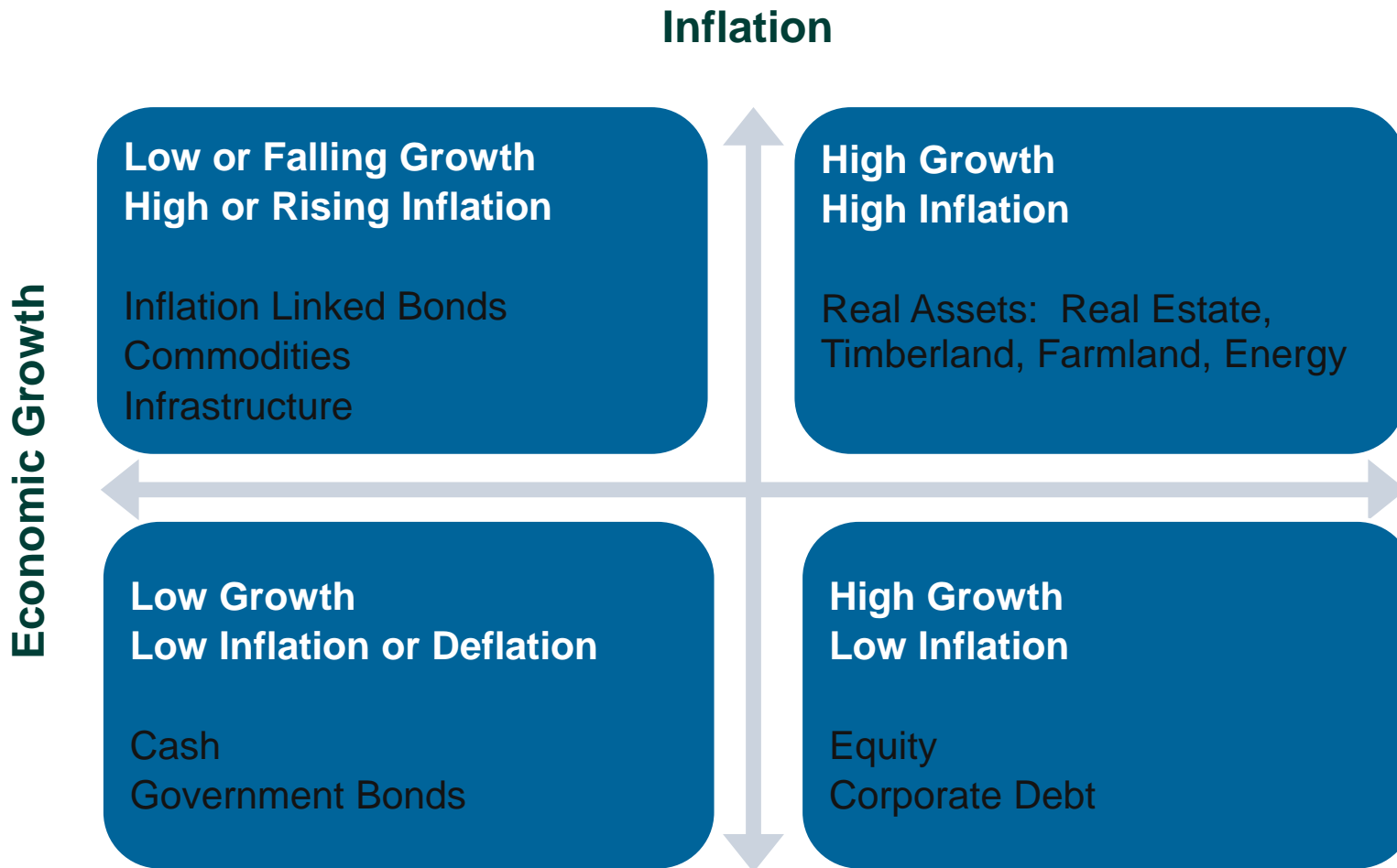
U.S. private real estate is represented by the NCREIF Property Index, an unleveraged property level index, comprising domestic, institutional grade commercial properties acquired in the private market for investment purposes by institutional investors.

*Cambridge PE data available through September 30, 2018.

Grouping Asset Classes by Economic Roles

Evaluate Economic Growth and Inflation Scenarios

Investors seek economic diversification to a range of scenarios like inflation, deflation, stagflation and growth given the uncertainty.



Economic Roles of Asset Classes

Asset classes can be bucketed based on their responses to macroeconomic scenarios

- This approach combines the transparency of asset classes with the granularity of risk factor-based approaches

Capital Accumulation

- Grow assets through relatively high long-term returns
- Global public equity
- Private equity

Absolute Return

- Earn returns between stocks and bonds while attempting to protect capital
- Absolute return hedge funds

Flight to Quality

- Protect capital in times of market uncertainty
- U.S. fixed income
- Cash equivalents

Inflation Linked

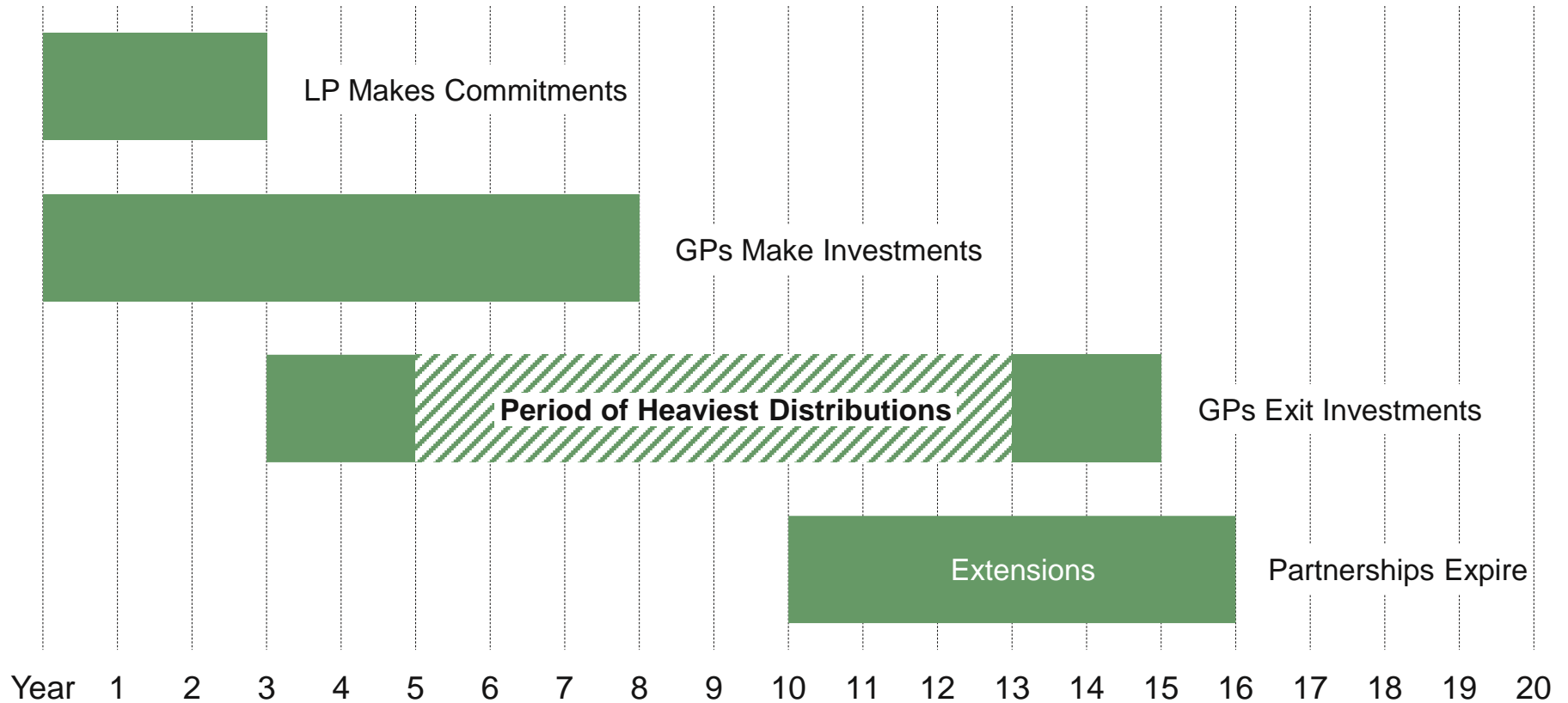
- Support the purchasing power of assets
- Real estate and real assets
- TIPS

How to Invest in Private Equity

- Private equity is accessed through a limited partnership vehicle where the investment manager is the **General Partner (GP)** and the investor is the **Limited Partner (LP)**.
- GPs raise distinct pools of capital every 3-4 years and LPs **commit** capital to those funds.
 - This is why you see private equity funds called Fund I, Fund II, Fund III...
- Over time the GP **draws down** the LP commitment and makes 10-30 investments into **portfolio companies**. The LP receives a **capital call** when the GP has bought a new company.
- The fund adds on some leverage to these companies and works to improve them in some way, either by cutting costs and/or growing revenues.
- After holding the companies for a few years, the GP looks to sell the companies. Once all portfolio companies are sold, the partnership liquidates – therefore, our clients need to continually invest in new partnerships as older ones expire.



Private Equity Investment Timeline

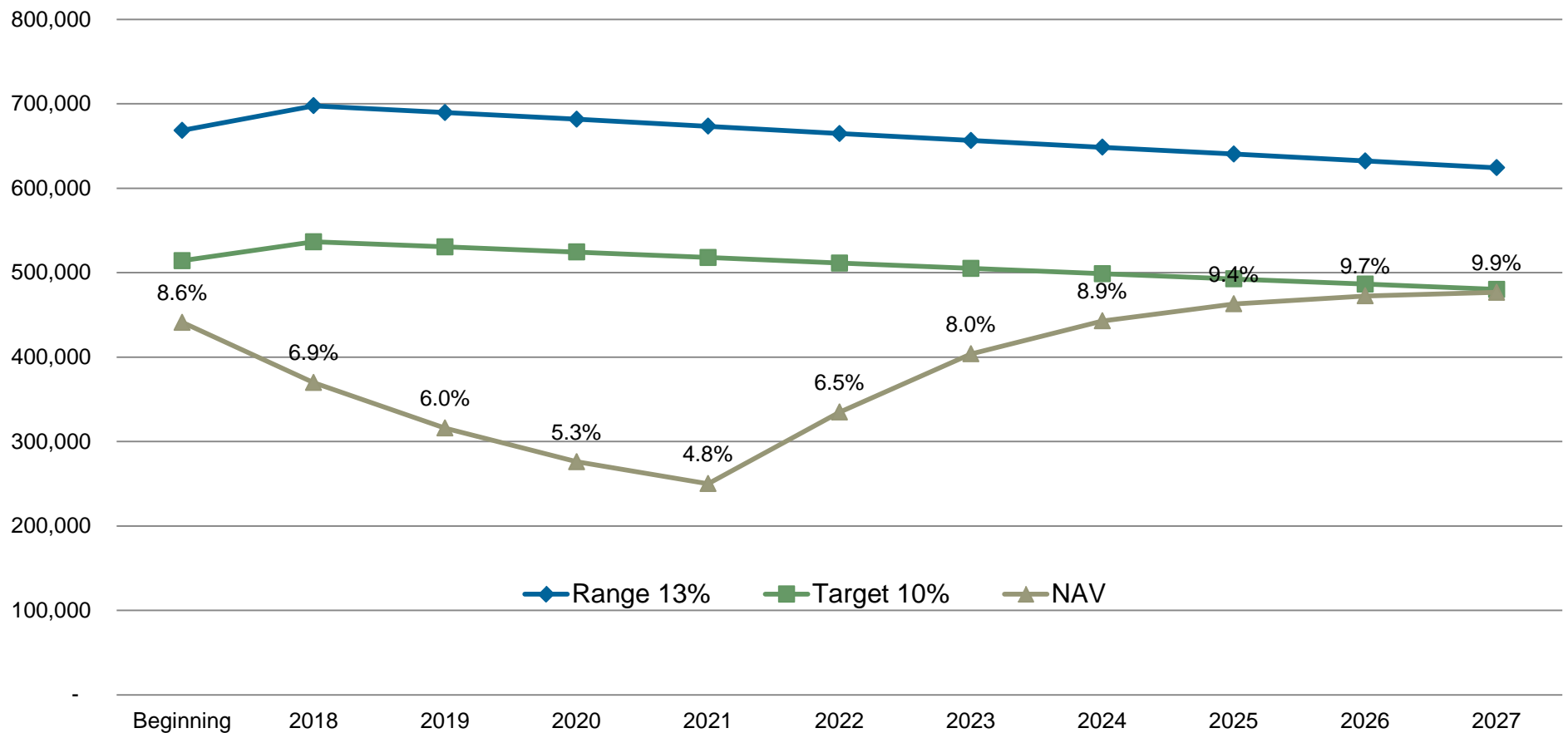


- Private equity is illiquid and requires a long time horizon.
- Decisions made today last 10 to 15 years.

Source: Private Equity Analyst

Commitment Pacing

- Because the portfolios require continual renewal by investing in new partnerships every year, a “capital budget” for future investments needs to be devised and adjusted annually so that the client does not become over- or under-allocated. Since the assets cannot be quickly sold, private equity cannot be “rebalanced” to target like public security portfolios—so the budget process is important.



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