2015 ANNUAL PROGRAM REVIEW

CalPERS Investment Committee

December 2015

PCA
PENSION
CONSULTING
ALLIANCE

Agenda Items

Section 1: Introduction

Historical Context

CalPERS Real Estate Portfolio ($ Billions)	2004	2008	2015
Core (NAV)	8.7	11.2	15.1
Non-Core (NAV)	3.3	10.7	11.9
Total Real Estate Portfolio	12.1	21.9	27.0
% Non-Core	28%	49%	44%
Total CalPERS Portfolio	166.2	239.2	301.9
Real Estate as a % of the Total Portfolio	7%	9%	9%

As of June 30th quarterly reporting figures.

Going into the late stages of the last real estate cycle, CalPERS:

- Almost doubled invested capital and tripled the number of partnerships
- Increased use of leverage, recourse debt, cross-collateralization, etc.
- Invested more heavily in early life cycle assets, namely land and development
- Created high vintage-year concentrations

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Introduction

Observations

- Portfolio has produced strong nominal and relative performance in recent years
- Portfolio is increasingly meeting the role as assigned in the 2011 Strategic Plan
- Investment beliefs are being incorporated into RAU decision making
- Strategic portfolio is likely to produce attractive returns over next 12 months
- Portfolio's risk profile has been substantially reduced
- Staff is proactively improving portfolio management processes
- Thoughtful, experienced, and energetic new MID

Introduction

Observations

- Real estate fundamentals are healthy
- Global capital markets continue to make it difficult to deploy capital and meet CalPERS' underwritten returns established for real estate
- Market conditions will favor investors who can proactively identify and nimbly execute their strategic investment objectives
- Portfolio and team are better positioned to withstand the next correction
- Longer-term performance continues to suffer from investment decisions made during the last cycle

Meaningful Updates

Over the past year:

- Installed new MID
- Restructured Real Assets Unit human resources
  - Integrating real estate and infrastructure more fully
  - Supporting stronger common systems, processes, and analytics
  - Now organized by functional group (Risk, New Investments, Portfolio Management, and Analytics)
- Advanced improvements in operational data, governance, and controls
  - Performance reporting
  - Risk assessment systems
- Initiated process to dispose of legacy/non-core holdings
- Continued capital deployment to strong emerging manager program
- Further cost savings

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Meaningful Updates

In Support of Enterprise–Level Initiatives

- Portfolio is increasingly well aligned with role of real estate in overall portfolio
- Portfolio is producing results that support the CalPERS Strategic Plan
- Business model is embracing Vision 2020 objectives
- Furtherance of Environmental, Social and Governance initiatives
- Investment beliefs now part of decision-making at many levels
- Increasing alignment of interests with primary stakeholders and business partners

Investment Beliefs

1. Liabilities must influence the asset structure

    CalPERS invests in real estate to generate income, provide diversification, and as an inflation hedge.

2. A long term investment horizon is a responsibility and an advantage.

    Real estate is a private, illiquid asset class; assets are generally held for longer periods of time.

3. CalPERS investment decisions may reflect wider stakeholder views.

    Targeted investment programs are being used effectively in the RE program.

4. Long-term value creation requires effective management of three forms of capital: financial, physical, and human.

    The RE Portfolio continues to improve governance and engagement on ESG initiatives.

5. CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution.

    RE contributes to the delivery of the long-term target return of the Fund. Benchmarking remains challenging.

6. Strategic asset class allocation is the dominant determinant of portfolio risk and return.

    RE provides diversification from global equities and other growth assets.

7. CalPERS will take risk only where we have a strong belief we will be rewarded.

    The majority of the RE portfolio is invested in lower risk, lower volatility investments.

8. Costs matter and need to be effectively managed.

    The RE portfolio invests primarily through separate accounts that offer lower fees than funds.

9. Risk is multi-faceted and not fully captured through measures such as volatility or tracking error.

    Staff continues to improve risk management in RE through investment process, analysis and reporting

10. Strong processes and team work and deep resources are needed to achieve CalPERS' goals and objectives.

    RAU brings teamwork and improved processes to bear; staff compensation remains an issue.

Portfolio Characteristics

Portfolio characteristics are moving towards the objectives of the Strategic Plan and Vision 2020.

* Lower volatility, long duration income generation
* Repeatable, predictable, scalable

CalPERS Real Estate Portfolio	2009	2015	After Project Knight
Core	$6.9 billion	$13.7 billion	$13.7 billion
LTV	61.9%	32.4%	31.7%
Risk			
Core	33%	51%	56%
Value-Add	21%	24%	23%
Opportunistic	46%	25%	21%
Commingled Funds	74	52	9
Separate Accounts	63	40	40
Recourse Debt	$4,100 million	$39.3 million	$36.0 million

As of June 30th, 2009 and September 30th, 2015 quarterly reporting figures.

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SWOT Analysis – Real Estate Program

Strengths

- Strategic plan bearing fruit
- Strong actual and relative performance
- Experienced full-time MID
- Significant reduction of risk in the portfolio
- Improved cost efficiency
- Stability of business plan
- Forecast of fundamentals is increasingly positive
- Investment Beliefs (direction from Board)

Weaknesses

- Staff is resource constrained and Sacramento-centric
- Reliance on external managers, some of whom are captive to CalPERS
- Installation of new real asset portfolio management tools will take time
- Staff compensation limitations
- Integrating Investment Beliefs and ESG in a more disciplined manner

Opportunities

- Continue moving the portfolio towards the objectives established in the 2011 Strategic Plan
- Fine tune 2011 Strategic Plan with update in 2016
- ESG initiatives and staffing
- Proactively identify and pursue opportunities consistent with Plan

Threats

- Highly competitive market for new acquisitions that meet CalPERS' risk/return objectives
- CalPERS' international markets' fundamentals are sluggish and volatile
- Difficulty in sourcing new strategic partners
- Reinvestment risk

Section 2: Market Overview

U.S. CRE Indicators

	Current	2007/2008	20-Year Average
Yield Curve Slope (long less short)	220 bps	-70 bps	150 bps
REIT NAV Premium/Discount	-12%	-18%	+4%
Cap Rate Spread to Treasuries	3.2%	0.8%	2.9%
Construction (% of GDP)	0.7%	1.1%	1.2%
LTV	60%	65%	65%
NCREIF Sales (% of Market Cap)	7%	10%-17%	7%
Cap Rate	5.4%	5.6%	7.2%
REIT Prices (Peak to Current)	-14%	-25%	
Mortgage Debt (% of GDP)	19.4%	23.8%	17.1%
Mortgage Spreads to LIBOR 60%	190 bps	119 bps	250 bps

Provided by: Deutsche Asset & Wealth Management
Source: Federal Reserve, NAREIT, NCREIF, American Council of Life Insurance, Bureau of Economic Analysis, and Deutsche Asset & Wealth Management

Global Capital Flowing to U.S. Property

1H 2015

Origin of Capital	Number of Properties	Total Dollars (millions)
Canada	271	$12,971
Singapore	647	$8,430
Norway	230	$6,745
China	45	$5,160
Australia	32	$2,777
Germany	25	$2,717
Switzerland	36	$2,208
South Korea	8	$1,924
UAE	39	$1,908
Other	215	$10,294
Total	1,548	$55,134

Destination of Capital	Number of Properties	Total Dollars (millions)
Manhattan	54	$13,943
DC	21	$3,076
Los Angeles	67	$2,264
Boston	21	$2,250
Chicago	105	$2,104
Dallas	91	$2,062
Atlanta	58	$1,867
Hawaii	10	$1,698
Seattle	18	$1,566
Other	1,103	$24,303
Total	1,548	$55,134

2014

Origin of Capital	Number of Properties	Total Dollars (millions)
Canada	706	$15,951
Norway	74	$4,357
Japan	42	$3,578
China	53	$3,286
Germany	29	$2,576
Hong Kong	19	$2,176
Switzerland	38	$1,969
Singapore	8	$1,740
Israel	37	$1,310
Other	232	$9,312
Total	1,238	$46,255

Destination of Capital	Number of Properties	Total Dollars (millions)
Manhattan	58	$8,829
Dallas	326	$4,982
Boston	29	$4,165
Los Angeles	28	$3,144
DC	19	$2,874
Hawaii	9	$2,175
San Francisco	27	$2,170
Chicago	53	$1,795
East Bay	12	$882
Other	677	$15,240
Total	1,238	$46,255

The competition to CalPERS' investment managers includes diverse international investors who view U.S. commercial properties as attractive safe havens.

Source: Real Capital Analytics, AEW

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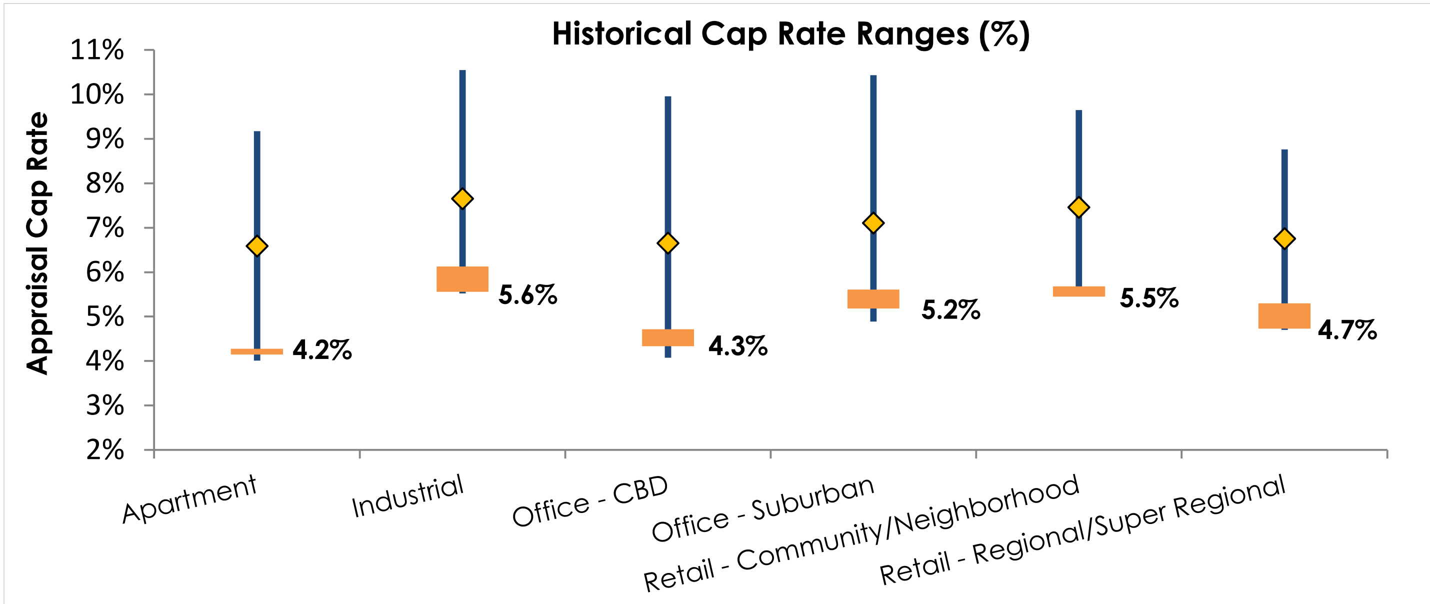
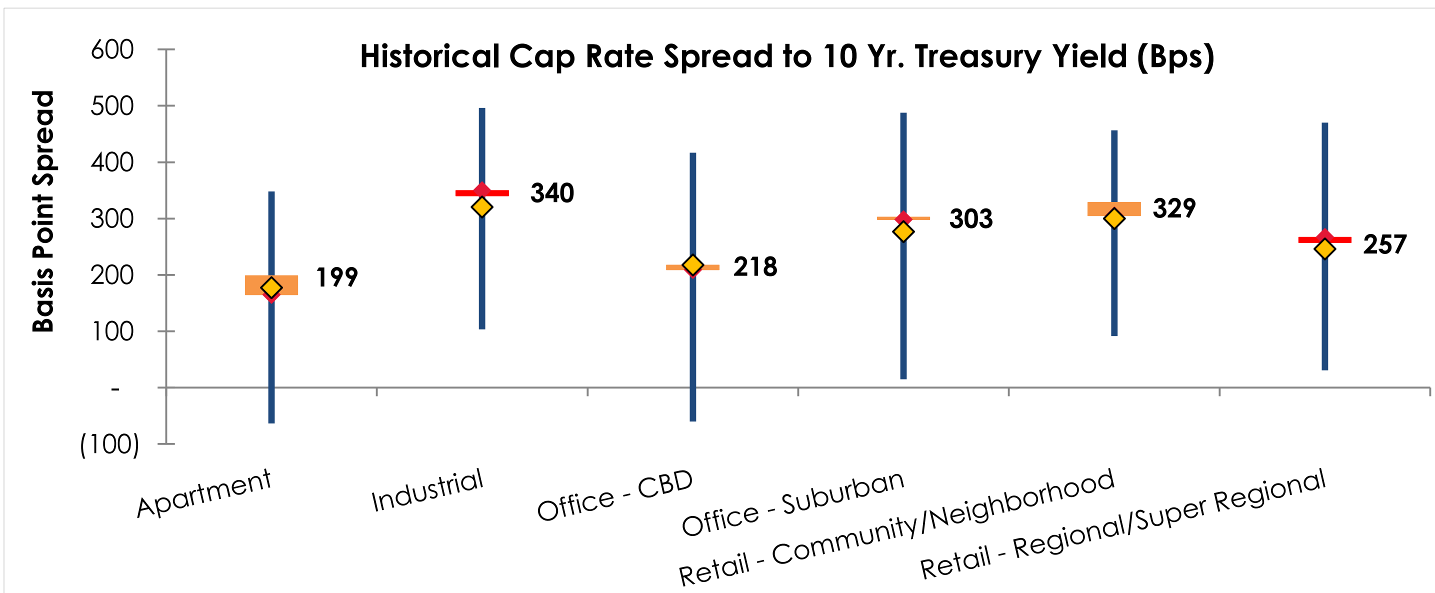
Pricing Dynamics



Current cap rates are nearing historic lows…



…and cap rate spreads over treasuries are near the long-term average spread.

Core real estate prices may be able to withstand a moderate increase in interest rates.

Source: NCRIEF, AEW (As of June 30th, 2015.)

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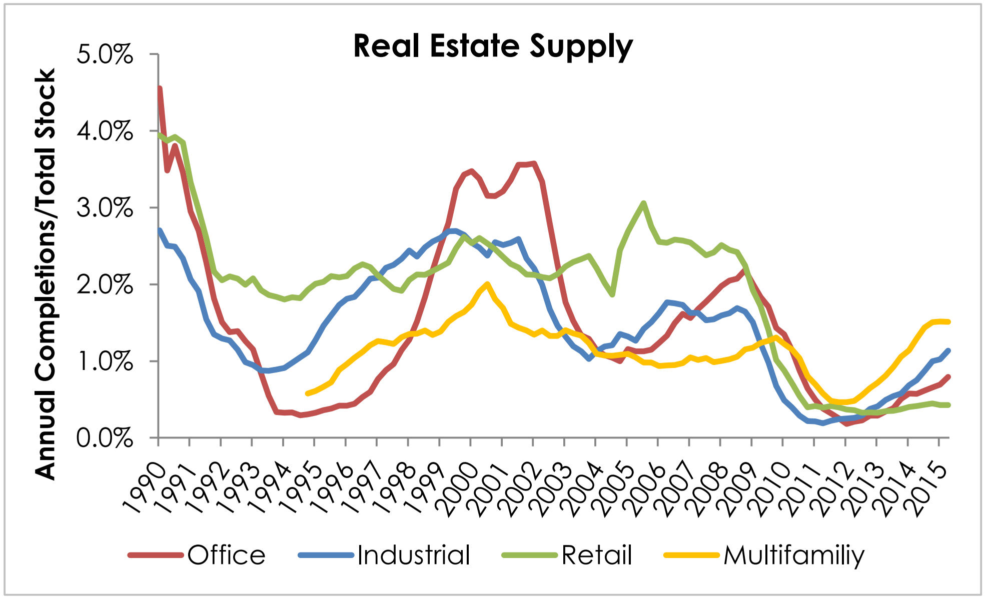
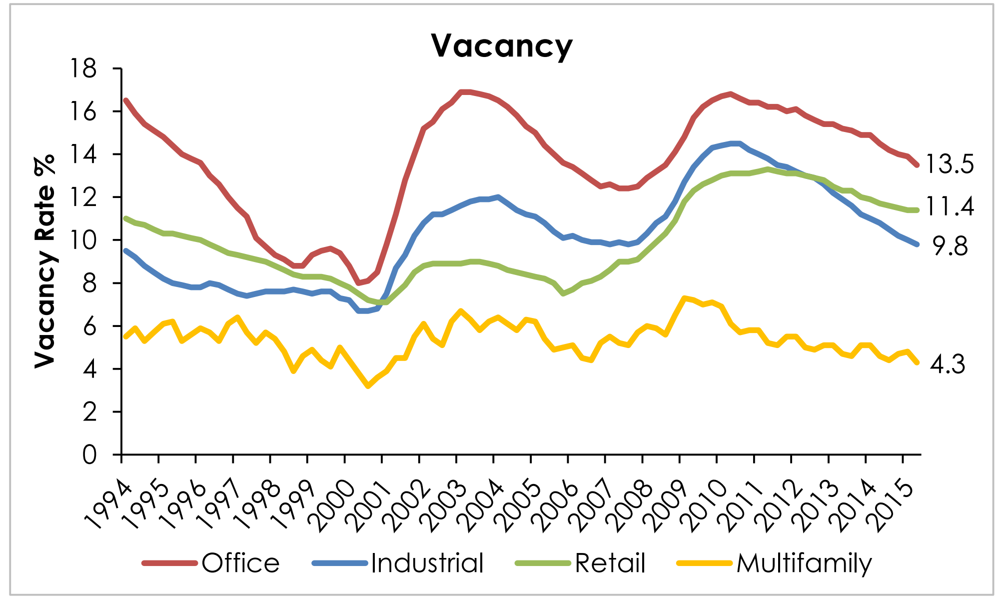
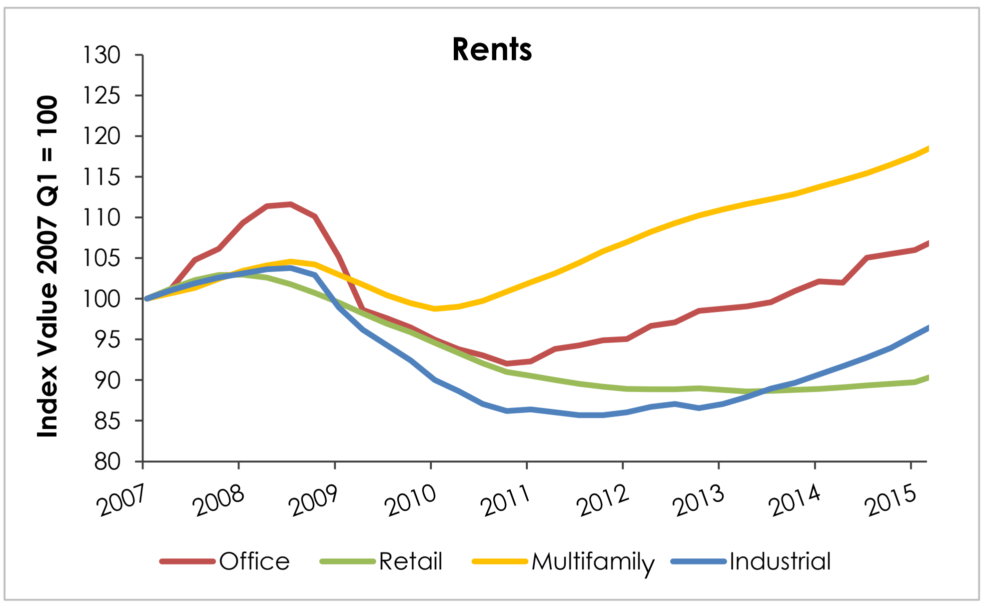
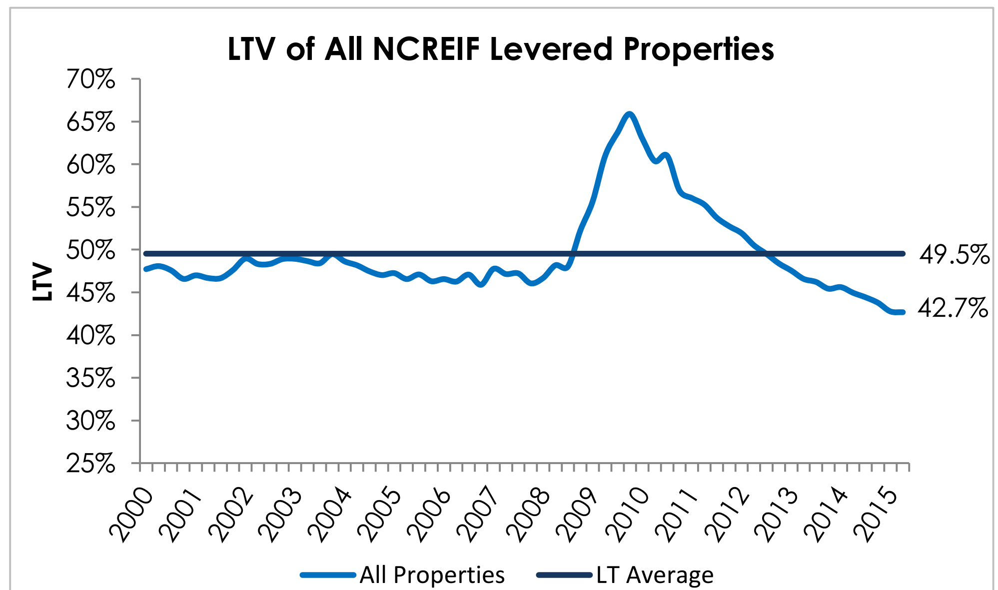
Real Estate Recovery and Fundamentals









Source: CBRE-EA, Census, AEW, NCREIF, and PREA

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Section 3: Conclusion

Conclusion

- Continued progress on 2011 Strategic Plan objectives, portfolio management initiatives, and Real Asset Unit operational efficiency
- Portfolio generating positive performance, with significant market tailwinds and favorable leverage compared to the Benchmark
- Returns are unlikely to continue same pace over medium term
- Pricing is acting as a governor on acquisition pacing
- Reaching target allocation should be a deliberate process
- Portfolio and team making meaningful contributions to plan level initiatives.

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