Role of Real Estate

CalPERS’ role for real estate is to provide:

- Stable and predictable cash yield
- Inflation protection
- Diversification of equity risk

Benchmark:

- National Council of Real Estate Investment Fiduciaries - Open End Diversified Core Equity (NC REIF-ODCE)
Portfolio Performance

- Real estate portfolio performance is aligned with CalPERS' organizational values and investment beliefs.
- Real estate is fulfilling its intended role, achieving a 5-year net income return for fiscal year 2016/2017 of 3.3%.
- Real estate outperformed the 2013 ALM expected return of 7.0% for the one-, three- and five-year time periods.

<table>
<thead>
<tr>
<th></th>
<th>1-Year Net Return</th>
<th>3-Year Net Return</th>
<th>5-Year Net Return</th>
<th>10-Year Net Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>CalPERS Real Estate Portfolio</td>
<td>7.6%</td>
<td>9.4%</td>
<td>10.8%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>NCREIF-OCDE Benchmark</td>
<td>7.4%</td>
<td>10.8%</td>
<td>11.1%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Over (Under) Performance</td>
<td>+0.2%</td>
<td>-1.4%</td>
<td>-0.3%</td>
<td>-9.1%</td>
</tr>
</tbody>
</table>

- Portfolio is positioned to be cost-efficient.
Portfolio Characteristics

Then and now:
Portfolio characteristics continue to move towards the Strategic Plan and Vision 2020

<table>
<thead>
<tr>
<th>CalPERS Real Estate Portfolio</th>
<th>2007</th>
<th>2009</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core NAV</td>
<td>$10.9 Billion</td>
<td>$6.9 Billion</td>
<td>$23.6 Billion</td>
</tr>
<tr>
<td>LTV</td>
<td>60.1%</td>
<td>61.9%</td>
<td>31.4%</td>
</tr>
<tr>
<td>Lifecycle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core</td>
<td>54%</td>
<td>33%</td>
<td>77%</td>
</tr>
<tr>
<td>Value-Add</td>
<td>0%</td>
<td>21%</td>
<td>9%</td>
</tr>
<tr>
<td>Opportunistic</td>
<td>46%</td>
<td>46%</td>
<td>14%</td>
</tr>
<tr>
<td>External Managers</td>
<td>68</td>
<td>69</td>
<td>21</td>
</tr>
<tr>
<td>Commingled Funds</td>
<td>88</td>
<td>74</td>
<td>12</td>
</tr>
<tr>
<td>Separate Accounts</td>
<td>58</td>
<td>63</td>
<td>28</td>
</tr>
<tr>
<td>Recourse Debt</td>
<td>$7.0 Billion*</td>
<td>$4.1 Billion</td>
<td>$4.5 Million</td>
</tr>
</tbody>
</table>

*Recourse debt amount shown represents data as of March 2008
A Year of Accomplishments

**Fortifying investment portfolio**
- More focus on base core assets
- Investment in existing assets
- Lower, fixed-rate leverage

Shifting gears on international investments

**Emerging Manager program evolution**

**Improvements in risk assessment and reporting**

**Promotions and team development**
Real Assets Portfolio – At inflection point

- Simpler, lower risk portfolio construction
- Significant dry powder
- Well-positioned to weather a market correction
- And take advantage of opportunities as they arise in a timely manner
- Shift from focus on portfolio issues to focus on management issues:
  - Investment Beliefs and ESG Integration
  - Governance
  - Segment plans
  - Manager Oversight and RCP programs
  - Team growth and career advancement
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, including emerging managers, responsible contractor policy (RCP) programs.

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. Costs matter and need to be effectively managed.
   The RE portfolio invests primarily through separate accounts that offer lower fees than funds.

6. 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.
ESG Integration

- Progress against RAU Strategic Plan
- Sustainable Development Goals
- Carbon footprint reporting
- Energy optimization initiative
- Climate risk data mapping project
- ESG Consideration Matrix

*ESG Integration – tools for investment, engagement, and measurement being developed*
### SWOT Analysis – Real Estate Program

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
</tr>
</thead>
</table>
| • Strong leadership and diversity of team | • Limited control over constraints that impact ability to deploy capital  
  • Required rates of return  
  • Market conditions  
  • Business model  
  • Resources |
| • Increasingly positive market profile and reputation | • Manager concentration; need to re-underwrite periodically |
| • Improved responsiveness | |
| • Disciplined approach | |
| • Utilizing ideas and experience of other asset class professionals | |

<table>
<thead>
<tr>
<th><strong>Opportunities</strong></th>
<th><strong>Threats</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cross-pollination of best sustainable investment practices</td>
<td>• Technology changes, space use disruption/innovation, and obsolescence</td>
</tr>
<tr>
<td>• Explore/assess “harder” investment opportunities: residential development, international, etc.</td>
<td>• Retention of professionals</td>
</tr>
</tbody>
</table>
| • Big data  
  • Investment strategy – fine tuning  
  • Risk management  
  • ESG initiatives | • Downturn in market growth rates and demand |
A cap rate is the current annual income of the property divided by an estimate of the current value of the property. It is the current yield of the property. Low cap rates indicate high valuations.

Core real estate cap rates remain low by historical standards (expensive).

**Core Real Estate Current Value Cap Rates**

- Core Cap Rate
- LT Average Cap Rate
- 10 Year Treasury Rate

Spread to the 10-year Treasury ticked up due to a decline in the 10-year yield.

**Core Cap Rate Spread over 10-Year Treasury Interest Rate**

- Spread Over Treasuries
- LT Average Spread

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1 A cap rate is the current annual income of the property divided by an estimate of the current value of the property. It is the current yield of the property. Low cap rates indicate high valuations. **Sources**: NCRIEF, www.ustreas.gov
Real Estate Fundamentals

**U.S. Average Vacancy Rate**

**Additions to Stock Over Prior 4 Quarters as a Share of Total Stock**

Source: AEW
Real Estate Fundamentals

![Real Estate Index Value](Image)

**Rents**

Index Value 2007 Q1 = 100

- **Office**
- **Industrial**
- **Retail**
- **Apartment**
- **Seniors Housing**

**NOI Growth**

![NOI Growth](Image)

Source: AEW
Leverage

Leverage Use in the NCREIF Universe

Origination Volume Over Time by Lender
(2005-2015 average = 100%)

Sources: NCREIF, AEW, Hawkeye Partners
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