What is a REIT?

REITs are companies and own and manage income-producing real estate

REITs were developed to *democratize* real estate investment

- *Asset* and *income* tests ensure returns reflect real estate investment
  - At least 75 percent of assets are real estate
  - At least 75 percent of income comes from ownership of real estate

- *Ownership* tests ensure ordinary individuals are the main beneficiaries
  - At least 100 shareholders with transferable shares
  - Largest five shareholders cannot collectively own more than 50 percent

- *Distribution* test ensures that real estate returns flow to individuals
  - Must distribute at least 90 percent of taxable income in the form of dividends
  - Distributions are deducted from taxable income to prevent double-taxation
  - Most REITs distribute at least 100 percent of taxable income, so have no remaining income subject to taxation at the corporate level

- Tests ensure that REIT shareholders have the same tax treatment as individuals or partnerships
What is “Public Real Estate”? 

- “Private real estate” can be offered to *qualified investors* but not to the general public.
  - Private non-REITs—including direct investment, co-investment, separate accounts, and many private equity investment funds
  - Private REITs—including many other private equity investment funds

- “Public real estate” must be registered with the SEC and can be offered to the general public.
  - Includes real estate operating companies (REOCs) as well as REITs

- Public REITs may be *listed or unlisted*.
  - Listed REITs are traded on major stock exchanges.
  - Non-Listed REITs are sold directly to investors through broker-dealers.

- Equity REITs own primarily physical real estate (e.g., buildings).
  - Mortgage REITs own primarily real estate debt (e.g., MBS).

- My discussion focuses on listed equity REITs, an industry that has grown to more than one trillion dollars.

*Nareit.*
What Should We Talk About Today?

1. Long-term investment attributes of public and private real estate
   ▪ Correlations
   ▪ Volatilities
   ▪ Returns

2. Real estate in the fundamental mixed-asset portfolio

3. The current real estate market situation
   ▪ Duration of the real estate market cycle
   ▪ The macro and interest rate environment
   ▪ Current REIT valuations
Public and Private Measurement of Performance

Hotel returns, 2001-2002

Source: Nareit analysis of NCREIF Property Index (Hotel) and FTSE Nareit PureProperty® Index Series. PureProperty index measures property (unlevered) returns based on stock returns of REITs that own properties in that segment of the real estate market, corrected for REIT leverage (debt).
Correlations
First, stop and think

- Why do some asset-pairs have a high correlation while others have a low correlation?

- Should real estate and stocks be highly correlated?
  - Why or why not?

- Should public and private real estate be highly correlated?
  - Why or why not?
Most Sectors Show an Upward-Sloping Term Structure of Correlations with the Broad Stock Market

*Upward*-sloping term structure means long-term returns respond to the *same* drivers.

- Short-term returns may be affected by information that is of questionable value to long-term investors
- Returns for most companies are driven by developments in the *business cycle*

**Most Sectors Show an Upward-Sloping Term Structure of Correlations with the Broad Stock Market**

*Upward*-sloping term structure means long-term returns respond to the *same* drivers.
- Short-term returns may be affected by information that is of questionable value to long-term investors
- Returns for most companies are driven by developments in the *business cycle*

*Downward*-sloping term structure means long-term returns respond to *different* drivers.
- Returns in the Materials and Energy sectors are driven by developments in the *commodities market cycle*

<table>
<thead>
<tr>
<th>Sector</th>
<th>1 month</th>
<th>3 months</th>
<th>6 months</th>
<th>12 months</th>
<th>24 months</th>
<th>36 months</th>
<th>48 months</th>
<th>60 months</th>
</tr>
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<tbody>
<tr>
<td>Financials</td>
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<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
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<tr>
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<td>0.60</td>
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<td>0.60</td>
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<tr>
<td>Financials</td>
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<tr>
<td>Telecom</td>
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<td>0.60</td>
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<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
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</tr>
<tr>
<td>Health Care</td>
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<tr>
<td>Industrials</td>
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<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
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<td>Consumer</td>
<td>0.96</td>
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<td>0.96</td>
<td>0.96</td>
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<tr>
<td>Info Tech</td>
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<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
</tr>
</tbody>
</table>

REITs Show a *Downward-Sloping* Term Structure of Correlations with the Broad Stock Market

- Declining REIT-stock correlation over increasing investment horizons indicates that asset returns increasingly *differ* as spillover (mispricing) effects are corrected
- Declining correlation as errors are corrected is a sign that underlying return drivers are fundamentally different—that is, REITs and non-REITs represent different asset classes
- REIT returns respond to the long *real estate market cycle*, whereas the broad stock market responds to the much shorter *business cycle*
Measurement Lag in Private Real Estate

Measurement Lag in Private Real Estate

Measurement Lag in Private Real Estate

**Upward-Sloping Term Structure of Correlations between Public and Private Real Estate**

- An upward-sloping term structure of correlations happens when indices are in the same asset class but measurement problems affect reported short-term returns
  - Private real estate:
    - Transaction lag (about two quarters)
    - Appraisal lag (about one quarter)
    - Non-appraisal (one to three quarters)
    - Appraisal error (12 percent on average)
  - REITs: spillover from non-REIT stocks
- Correlations increase as the investment horizon lengthens, reflecting the correction of both return measurement problems in private real estate and mispricings in listed REITs
- Cointegration analysis confirms that “the correlation between Nareit and NCREIF returns approaches one as the investment horizon lengthens”

Source: Nareit analysis of quarterly total returns for the FTSE Nareit All Equity REITs Index, NCREIF Property Index, and NCREIF ODCE Index, 1978Q1-2018Q3 and the Cambridge Associates Real Estate Fund Index, 1986Q1-2018Q2. Quotation is from “The Long-Run Dynamics Between Direct and Securitized Real Estate” by Oikarinen, Hoesli & Serrano [2011].
# CEM Benchmarking: REIT Correlations with Equities and Unlisted Real Estate

## Key Correlations: Equities, REITs and Unlisted Real Estate

**1998-2015**

<table>
<thead>
<tr>
<th></th>
<th>U.S. Large Cap Public Equity</th>
<th>U.S. Small Cap Public Equity</th>
<th>Non-U.S. Public Equity</th>
<th>Private Equity</th>
<th>Unlisted Real Estate</th>
<th>REITs</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Large Cap Public Equity</td>
<td>1.00</td>
<td>0.92</td>
<td>0.89</td>
<td>0.85</td>
<td>0.49</td>
<td>0.55</td>
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<tr>
<td>U.S. Small Cap Public Equity</td>
<td>1.00</td>
<td>0.89</td>
<td>0.88</td>
<td>0.58</td>
<td>0.58</td>
<td>0.64</td>
</tr>
<tr>
<td>Non-U.S. Public Equity</td>
<td>1.00</td>
<td>0.91</td>
<td>0.55</td>
<td>0.58</td>
<td>0.55</td>
<td>0.58</td>
</tr>
<tr>
<td>Private Equity</td>
<td>1.00</td>
<td></td>
<td>0.54</td>
<td>0.50</td>
<td>0.54</td>
<td>0.50</td>
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<tr>
<td>Unlisted Real Estate</td>
<td></td>
<td>1.00</td>
<td></td>
<td>0.92</td>
<td>1.00</td>
<td>0.92</td>
</tr>
<tr>
<td>REITs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

What Should We Talk About Today?

1. Long-term investment attributes of public and private real estate
   - Correlations ✓ both provide asset class diversification
   - Volatilities
   - Returns

2. Real estate in the fundamental mixed-asset portfolio

3. The current real estate market situation
   - Duration of the real estate market cycle
   - The macro and interest rate environment
   - Current REIT valuations
Volatilities
First, stop and think

- Why do some investments have high volatility while others have low volatility?
  - Asset-level volatility vs investment-level volatility

- Should investments in public and private real estate have different asset-level volatilities?
  - Why or why not?
Public and Private Real Estate Have Virtually Identical Volatilities, Conditional on the Amount of Leverage

<table>
<thead>
<tr>
<th>Capital Appreciation</th>
<th>Total Return</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unlevered REITs</td>
</tr>
<tr>
<td>Apartment</td>
<td>10.3%</td>
</tr>
<tr>
<td>Industrial</td>
<td>10.8%</td>
</tr>
<tr>
<td>Office</td>
<td>11.0%</td>
</tr>
<tr>
<td>Retail</td>
<td>11.6%</td>
</tr>
<tr>
<td>East Region*</td>
<td>11.5%</td>
</tr>
<tr>
<td>Midwest Region*</td>
<td>10.5%</td>
</tr>
<tr>
<td>South Region*</td>
<td>9.9%</td>
</tr>
<tr>
<td>West Region*</td>
<td>11.4%</td>
</tr>
<tr>
<td>Aggregate*</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

Source: Nareit analysis of quarterly data from NCREIF Transaction Based Index (NTBI) and FTSE Nareit PureProperty® Index Series, 2002Q3-2017Q4. Quarterly returns for the NTBI are based on all properties in the NCREIF Property Index (NPI) data base that transacted at any time during each quarter; quarterly returns for the PureProperty are based on only the last transaction of stock for each constituent REIT during each quarter. *Includes health care and hotel properties, which are typically slightly more volatile.
What Should We Talk About Today?

1. Long-term investment attributes of public and private real estate
   - Correlations ✓ both provide asset class diversification
   - Volatilities ✓ almost identical equity-like volatility for both
   - Returns

2. Real estate in the fundamental mixed-asset portfolio

3. The current real estate market situation
   - Duration of the real estate market cycle
   - The macro and interest rate environment
   - Current REIT valuations
Returns
First, stop and think

▪ Why do some investments provide high returns while others provide low returns?
  ▪ Asset-level returns vs investment-level returns

▪ Should public and private real estate generate different returns?
  ▪ Why or why not?
## Net Total Returns Through a Full Real Estate Market Cycle

<table>
<thead>
<tr>
<th>Form of Real Estate Investment</th>
<th>Typical Leverage</th>
<th>Average Fees and Expenses</th>
<th>Duration of Real Estate Cycle</th>
<th>Full-Cycle Net Total Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlevered Properties</td>
<td>0 percent</td>
<td>≈100 basis points</td>
<td>17¾ years 1990Q3 - 2008Q2</td>
<td>275 percent 7.7 percent / year</td>
</tr>
<tr>
<td>Open-End Diversified Core Funds</td>
<td>≈22 percent</td>
<td>107 basis points</td>
<td>17¾ years 1990Q3 - 2008Q2</td>
<td>272 percent 7.7 percent / year</td>
</tr>
<tr>
<td>Value-Add Private Equity Real Estate Funds</td>
<td>≈51 percent</td>
<td>170 basis points</td>
<td>17¼ years 1990Q3 - 2007Q4</td>
<td>348 percent 8.9 percent / year</td>
</tr>
<tr>
<td>Opportunistic Private Equity Real Estate Funds</td>
<td>≈64 percent</td>
<td>257 basis points</td>
<td>17½ years 1990Q3 - 2008Q1</td>
<td>716 percent 12.9 percent / year</td>
</tr>
<tr>
<td>Exchange-Traded Equity REITs</td>
<td>≈38 percent</td>
<td>≈52 basis points</td>
<td>17½ years 1989Q3 - 2007Q1</td>
<td>802 percent 13.4 percent / year</td>
</tr>
</tbody>
</table>

Source: Nareit analysis of quarterly net total returns. Unlevered properties: NCREIF Property Index, assuming fees and expenses of 25 basis points per quarter. Open-End Diversified Core Funds: NCREIF ODCE Index. Value-Add and Opportunistic Private Equity Real Estate Funds: NCREIF/Townsend Funds Index. Exchange-Traded Equity REITs: FTSE Nareit All Equity REIT Index, assuming fees and expenses of 13 basis points per quarter. Returns are not adjusted for differences in leverage.
Every Academic Study Ever Conducted Has Found that Public Real Estate Outperformed Private Real Estate

<table>
<thead>
<tr>
<th>Authors</th>
<th>Publication</th>
<th>Summary of Empirical Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>REITs</strong></td>
</tr>
<tr>
<td>Riddiough, Moriarty &amp; Yeatman [2005]</td>
<td>Real Estate Economics</td>
<td>10.44% per year</td>
</tr>
<tr>
<td>Pagliari, Scherer &amp; Monopoli [2005]</td>
<td>Real Estate Economics</td>
<td>12.34% per year</td>
</tr>
<tr>
<td>Tsai [2007]</td>
<td>MSRED Thesis (MIT)</td>
<td>11.83% per year</td>
</tr>
<tr>
<td>Andonov, Kok &amp; Eichholtz [2013]</td>
<td>Journal of Portfolio Management</td>
<td>10.63% per year</td>
</tr>
<tr>
<td>Ling &amp; Naranjo [2015]</td>
<td>Real Estate Economics</td>
<td>10.78% per year</td>
</tr>
<tr>
<td>Kiehalä &amp; Falkenbach [2015]</td>
<td>Journal of Portfolio Management</td>
<td>1.0 (public-market equivalent)</td>
</tr>
<tr>
<td>Fisher &amp; Hartzell [2016]</td>
<td>Journal of Real Estate Finance &amp; Economics</td>
<td>1.0 (public-market equivalent)</td>
</tr>
<tr>
<td>Ling, Naranjo &amp; Scheick [2017]</td>
<td>Real Estate Economics</td>
<td>2.159% per quarter</td>
</tr>
</tbody>
</table>
CEM Benchmarking: REITs Outperformed Other Major Asset Classes: 1998 to 2015

REITs provided higher average net total returns than all other asset categories over:
- all three available 15-year periods
- five of the eight 10-year periods
- four of the thirteen 5-year periods
- six of the fifteen 3-year periods
CEM Benchmarking: REITs Delivered Superior Risk Adjusted Returns


Sharpe Ratio

Volatility in percent

REITs provided higher Sharpe ratios than all other equity asset categories over:
- all three available 15-year periods
- five of the eight 10-year periods
- four of the 13 5-year periods
- three of the 15 3-year periods

Source: CEM Benchmarking, 2017
Net Income and Capital Appreciation Components of Net Total Return, 1988q3-2013q3

Source: Nareit analysis of data from NCREIF Property Index (unlevered core properties), NCREIF ODCE Index (core funds), NCREIF/Townsend Fund Indices (value added and opportunistic funds), and FTSE Nareit All Equity REITs Index (equity REITs). Expenses for equity REITs are estimated at 50 bps per year, distributed equally across all months; expenses for unlevered core properties are assumed to equal 100 bps per year, distributed equally across all quarters. Expenses are attributed to income returns only, in accordance with ODCE. Assumes no reinvestment of net income.
Why Have REITs Outperformed Private Real Estate?

- Transparency vs Opacity
  - Myth: investment managers must protect their ideas and strategies
  - Reality: opacity protects managers when they make poor decisions
  - Transparency subjects them to capital market discipline
    - Audited GAAP-compliant financial reporting
    - Information on holdings, performance, capital structure, etc. are available publicly, not just to investors or investment consultants under non-disclosure agreements
    - Equity analysts, debt analysts, and others publish their informed opinions
      "Transparency is defined as the widespread availability of relevant, reliable information about periodic performance, financial position, investment opportunities, governance, value, and risk."
      —Bushman & Smith [2003]

- Corporate Governance / Alignment of Interest
  - Incentive compensation for REIT executives is almost entirely restricted stock
  - Management fees and “promotes” drive a wedge between the interests of private equity fund managers and investors
Liquidity vs Lock-Up
- Myth: good investments can be made only if investors lock up capital
- Reality: illiquidity protects managers when they make poor decisions
- Liquidity subjects them to capital market discipline

Access to Capital
- Myth: the distribution requirement prevents REITs from having access to capital, so prevents them from making good investments
- Reality: REITs have access to capital from all parts of the market; unrestricted capital enables managers to make poor decisions, while the REIT distribution requirement subjects them to capital market discipline

“REITs have a built-in advantage in times of constrained credit through the ability to raise capital via seasoned equity or unsecured bond issues.”
—MacKinnon [2011]
Why Have REITs Outperformed Private Real Estate?

- Public/Private Arbitrage Opportunity
  - REITs tend to *buy* properties (and sell securities) when properties are inexpensive on the private market, and *sell* properties (and buy securities) when properties are expensive on the private market
  - REITs own about 20 percent of institutional-quality real estate assets
What Should We Talk About Today?

1. Long-term investment attributes of public and private real estate
   - Correlations ✓ both provide asset class diversification
   - Volatilities ✓ almost identical equity-like volatility for both
   - Returns ✓ REITs have consistently outperformed private real estate

2. Real estate in the fundamental mixed-asset portfolio

3. The current real estate market situation
   - Duration of the real estate market cycle
   - The macro and interest rate environment
   - Current REIT valuations
REITs Have an Important Role in Target-Date Funds

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean-Variance Optimization Excluding REITs</th>
<th>Mean-Variance Optimization Including Global REITs</th>
<th>Surplus Optimization Including Global REITs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global REITs</td>
<td>0.0%</td>
<td>6.5%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Large-Cap US Stocks</td>
<td>27.6%</td>
<td>27.7%</td>
<td>23.6%</td>
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<tr>
<td>Small-Cap US Stocks</td>
<td>7.0%</td>
<td>6.0%</td>
<td>1.0%</td>
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<tr>
<td>Non-U.S. Dev’d Mkts</td>
<td>20.0%</td>
<td>18.0%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Emerging Mkt Stocks</td>
<td>5.8%</td>
<td>5.2%</td>
<td>11.1%</td>
</tr>
<tr>
<td>U.S. Bonds</td>
<td>21.7%</td>
<td>26.3%</td>
<td>32.8%</td>
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<tr>
<td>High-Yield U.S. Bonds</td>
<td>5.9%</td>
<td>1.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Non-U.S. Bonds</td>
<td>6.7%</td>
<td>4.5%</td>
<td>5.1%</td>
</tr>
<tr>
<td>TIPS</td>
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<td>4.1%</td>
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<tr>
<td>Commodities</td>
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<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cash</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

## REITs Have an Important Role in Target-Date Funds

The following table illustrates the impact of including or excluding REITs in different optimization scenarios on the allocation of various asset classes. The table compares Mean-Variance Optimization Excluding REITs, Mean-Variance Optimization Including Global REITs, and Surplus Optimization Including Global REITs for different asset classes over a 20-year period ending in 2017.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Mean-Variance Optimization Excluding REITs</th>
<th>Mean-Variance Optimization Including Global REITs</th>
<th>Surplus Optimization Including Global REITs</th>
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<tbody>
<tr>
<td>Global REITs</td>
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<td>Small-Cap US Stocks</td>
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<td>6.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Non-U.S. Dev’d Mkts</td>
<td>20.0%</td>
<td>18.0%</td>
<td>15.0%</td>
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<td>High-Yield U.S. Bonds</td>
<td>5.9%</td>
<td>1.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Non-U.S. Bonds</td>
<td>6.7%</td>
<td>4.5%</td>
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<tr>
<td>TIPS</td>
<td>5.2%</td>
<td>4.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Commodities</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cash</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

REITs Have an Important Role in Target-Date Funds

<table>
<thead>
<tr>
<th></th>
<th>Mean-Variance Optimization Excluding REITs</th>
<th>Mean-Variance Optimization Including Global REITs</th>
<th>Surplus Optimization Including Global REITs</th>
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<td>23.6%</td>
</tr>
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<td>Non-U.S. Dev’d Mkts</td>
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<td>15.0%</td>
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<td>Emerging Mkt Stocks</td>
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<tr>
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<td>5.9%</td>
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<td>4.1%</td>
<td>0.0%</td>
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</tr>
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## REITs Have an Important Role in Target-Date Funds

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Portfolio Allocations to Real Estate

Different researchers, methodologies and time periods

<table>
<thead>
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<th>Methodology</th>
<th>Time Period</th>
<th>Allocation</th>
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<td>Wilshire Analysis Surplus Optimization</td>
<td>1990-2016</td>
<td>19%</td>
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<td>Wilshire Analysis Surplus Optimization</td>
<td>1990-2012</td>
<td>18%</td>
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<tr>
<td>Morningstar Analysis Liability Relative Investing</td>
<td>1990-2009</td>
<td>20%</td>
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<tr>
<td>Morningstar Analysis Fat Tail Optimization</td>
<td>1990-2009</td>
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<tr>
<td>Morningstar Analysis Mean Variance Optimization</td>
<td>1990-2010</td>
<td>20%</td>
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<td>Morningstar Analysis Mean Variance Optimization</td>
<td>1990-2007</td>
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What Should We Talk About Today?

1. Long-term investment attributes of public and private real estate
   - Correlations ✓ both provide asset class diversification
   - Volatilities ✓ almost identical equity-like volatility for both
   - Returns ✓ REITs have consistently outperformed private real estate

2. Real estate in the fundamental mixed-asset portfolio ✓

3. The current real estate market situation
   - Duration of the real estate market cycle
   - The macro and interest rate environment
   - Current REIT valuations
Typical Duration of the Real Estate Market *Cycle* is Close to 18 Years

- The long real estate market *cycle* may encompass several weak *non-cyclical* months or quarters.
- To date the duration of the current cycle is far less than previous cycles.
- Average total returns to date have been far lower than over full previous market cycles.
- The typical duration of the real estate market cycle was first observed in 1933 by the great real estate market researcher Dr. Homer Hoyt.

Source: Nareit analysis of FTSE Nareit All Equity REIT Index total returns.

Monthly data as of September 2018.
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   - Duration of the real estate market cycle ✓ still young
   - The macro and interest rate environment
   - Current REIT valuations
Typical Signs of a Downturn Are Absent

- Recessions have typically followed periods when the share of GDP from cyclical segments was abnormally high.
- Currently the share of GDP from cyclical segments is still abnormally low.

Source: Nareit analysis of data from U.S. Bureau of Economic Analysis and Haver Analytics.
Construction Still Hasn’t Recovered to Normal

- From 1993 until the start of the Great Financial Crisis the real value of new construction put in place averaged more than 1.5 percent of GDP.
- As a result of the GFC new construction plummeted to less than half its previous average.
- Since the GFC construction grew to almost 1.4 percent of GDP before declining slightly during 2017.

Source: Nareit analysis of data from U.S. Census Bureau, U.S. Bureau of Economic Analysis, and Haver Analytics.
Real Estate Operating Fundamentals Remain Favorable

- Net absorption (i.e. growth of demand) exceeds new supply for most property types in most markets.
- New construction is in check and vacancy rates are low, supporting modest increases in rents.

Source: Nareit analysis of data from CoStar.
REITs Have Typically Performed Well During Rising-Rate Periods

- Interest rates typically increase because macroeconomic conditions are strengthening
- Macro strengthening typically generates increased occupancy, increased rent growth, increased property values, and increased income distributions

Source: Nareit analysis of 12-month rolling total returns for FTSE Nareit All Equity REIT Index and 10-Year Treasury Constant Maturity Rate (via FRED), September 1993-September 2018.
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Public Real Estate Seems Inexpensive Relative to Private Real Estate

Source: Green Street Advisors, Inc., based on NAV estimates for U.S. REITs under coverage (excluding hotels) as of November 1, 2018.
Equity REIT Premiums to Net Asset Value Signal Future Performance

- The average equity REIT stock price premium / discount to estimated net asset value (P-NAV) has provided a valuable signal for future REIT total returns and for future REIT outperformance relative to the broad stock market.

- Current REIT stock prices are abnormally low relative to net asset value, suggesting strong future REIT total returns and strong future REIT outperformance relative to the broad stock market.

Source: Nareit analysis of monthly total returns from the FTSE Nareit All Equity REIT Index and Russell 3000 stock index, December 1990 – October 2018; yield spread is month-end average equity REIT yield minus month-end market yield on Moody’s Baa-rated bonds (via FRED).
Dividend Yield Spreads Also have Signaled Future REIT Performance

- The spread between average REIT dividend yields and the yields on other income-oriented investments has provided a valuable signal for future REIT total returns and for future REIT outperformance relative to the broad stock market.
- Yield spread to Baa-rated corporates (shown)
- Yield spread to high-quality corporates
- Yield spread to 10-year Treasuries

- Current REIT dividend yield spreads are relatively high, suggesting strong future REIT total returns and strong future REIT outperformance relative to the broad stock market.

Source: Nareit analysis of monthly total returns from the FTSE Nareit All Equity REIT Index and Russell 3000 stock index, December 1990 – October 2018; yield spread is month-end average equity REIT yield minus month-end market yield on Moody’s Baa-rated bonds (via FRED).
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   - The macro and interest rate environment ✓ favorable
   - Current REIT valuations ✓ all metrics seem to be in distinctly bullish ranges
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