What You Should Know About the Performance of Private Equity Real Estate

David Ling
Where Does Private Equity Real Estate (PERE) Fit in?

- Cash
- Bonds
- Stocks
- Alternatives
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Cash
Bonds
Stocks
Alternatives
  - Commercial Real Estate
  - Hedge Funds
  - Infrastructure
Where Does Private Equity Real Estate (PERE) Fit in?

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    - Private Market
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    - Public Market
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Through intermediaries:
- Private Market
- Direct Investment

Public Market
Where Does Private Equity Real Estate (PERE) Fit in?

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Private Market
- Through Intermediaries
- Direct Investment
  - JVs, LLCs, etc.
  - PERE Funds

Public Market

Cash

Bonds

Stocks

Alternatives

Commercial Real Estate

Hedge Funds

Infrastructure

Private Market

Through Intermediaries

Direct Investment

JVs, LLCs, etc.

PERE Funds
Where Does Private Equity Real Estate (PERE) Fit in?

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JVs. LLCs, etc.

PERE Funds

Open-end Funds

Closed-end Funds

Focus of this presentation
Background & Motivation

• Private equity real estate (PERE) funds have become an increasingly important part of CRE capital markets

• According to Cambridge Associates, equity investments in PERE funds approached $1 trillion in 4Q 2019

• Much research exists on public (listed) CRE (i.e., REIT) returns

• However…the return performance & risk profile of PERE funds are not well understood
Background & Motivation

• Private equity real estate (PERE) funds have become an increasingly important part of CRE capital markets
• According to Cambridge Associates, equity investments in PERE funds approached $1 trillion in 4Q 2019
• Much research exists on public (listed) CRE (i.e., REIT) returns
• However…the return performance & risk profile of PERE funds are not well understood
  • A “cloak of secrecy” pervades this market sector
Roadmap for Presentation

• Briefly review difference between open-end & closed-end PERE funds
• Explain the source of our data on closed-end PERE funds & performance
• Explain how we measure the relative performance of PERE funds
• Show you the results
• Provide some suggestions to PERE investors
Brief Overview of Closed-End PERE Funds

- Closed-end PERE funds are typically limited partnerships
  - Fixed term of 8-12 years (often with annual extensions)
  - Limited # of investors & properties
  - Sponsor/GP also invests—often 1-5% of equity capital
    - Expects to make majority of return from carried interest/promotes
  - Investors make a capital commitment, which (generally) is “called” by fund manager (GP) over 2-3 years as properties/assets are acquired
    - Commitment is a contractual obligation
- Very illiquid investments
Closed-End PERE Fund Raising & Investment Horizon

PERE Fund Lifecycle

**Fundraising Period (1 year)**

- Period between first and final close of investor commitments, which may also include early capital calls and investments.

**Investment Period (3 years)**

- Manager has discretion to make investments of its choice. This period will include capital deployments as well as offsetting distributions of investment income or early dispositions.

**Harvesting Period (6 to 8 years)**

- Manager should target liquidation of entire portfolio of investments. During this period, Manager may also provide funding to existing investments but will cease to make new investments.

**Asset Purchase**

**Asset Sale**
Brief Overview of Open-End PERE Funds

• Sometimes called “commingled” funds
• Infinite-life investment vehicles
  • e.g., Prudential's open-end PRISA I fund came to market in 1970
• Generally invest in high quality (“core”) properties with little or no leverage
• Allow investors to enter or exit the fund on a periodic basis (once a quarter)
  • Subject to some limitations
Research Presented Today is Based on Three Separate Research Projects.....

• “Waiting to be Called: The Impact of Deployment Speeds and Opportunity Costs on PERE Returns” (with Thomas Arnold & Andy Naranjo), *Journal of Portfolio Management* Vol. 43, 2017

• “Private Equity Real Estate Funds: Returns, Risk Exposures, and Persistence” (with Thomas Arnold & Andy Naranjo), *Journal of Portfolio Management* Vol. 45, 2019

• “Commercial Real Estate Return Performance: Listed REITs versus Private Equity Real Estate Funds” (with Thomas Arnold & Andy Naranjo)
  
  • New research partially funded by the *National Association of Real Estate Investment Trusts (NAREIT)*
Our Source of PERE Fund Data

• Source of closed-end PERE data is Cambridge Associates (CA)
• Data cover 2000Q1-2018Q4 time-period
Our Final PERE Data Set

• We delete/exclude:
  • funds that are not fully liquidated
    • So…all performance data is based on 100% actual cash flows
  • debt funds, funds providing financing to home builders, FoFs, infrastructure funds, agricultural funds
Our Final PERE Data Set

• Final database: 379 closed-end “equity” funds
• Three main investment strategies:
  • Core funds: existing stable assets, high quality tenants, major metro areas, low leverage, long-term holding periods (19 funds)
    • Target pre-tax returns to LPs: 6-8%
Our Final PERE Data Set

• Final database: 379 closed-end “equity” funds
• Three main investment strategies:
  • **Core funds**: existing stable assets, high quality tenants, major metro areas, low leverage, long-term holding periods (19 funds)
  • **Value-add funds**: existing properties that need some re-tenanting &/or renovation, may invest outside largest urban areas, use more leverage, short-to-medium holding periods (**143 funds**
    • Target pre-tax returns to LPs: 12-16%
Our Final PERE Data Set

• Final database: 379 closed-end “equity” funds
• Three main investment strategies:
  • Core funds: existing stable assets, high quality tenants, major metro areas, low leverage, long-term holding periods (19 funds)
  • Value-add funds: existing properties that need some re-tenanting &/or renovation, may invest outside largest urban areas, use more leverage, short-to-medium holds, (143 funds)
  • Opportunistic funds: development projects, major renovations, may invest in riskier locations, high leverage, shorter-term holding periods (217 funds)
    • Target pre-tax returns to LPs: 16%+
# of PERE Funds By Vintage Year

- Vintage year dramatically impacts fund performance

Total = 379 funds
Relative Performance of PERE?

- Research question: Have funds outperformed...
  - publicly-traded U.S. equity REITs?
  - open-end PERE funds that invest in core properties with minimum leverage?
Relative Performance of PERE?

• Research question: Has the fund outperformed:
  • publicly-traded U.S. equity REITs?
  • open-end PERE funds that invest in core properties with minimum leverage?

• We run 379 “horse races” against these benchmarks & tabulate the results
  • Without adjusting for liquidity, leverage, or risk profile….
Measuring the Relative Performance of PERE

• Performance metrics?
  • Internal rate of return (IRR)
  • Equity multiple (EM)
    • total cash distributions to LPs ÷ total capital invested by LPs

• How is “outperformance” of a fund determined?
  • If IRR (fund) – IRR (benchmark) > 0, fund has outperformed benchmark
  • If EM (fund) / EM (benchmark) > 1, fund has outperformed benchmark
379 “Horse Races”

- Match performance of each PERE fund with performance of benchmark over same investment horizon
Some Audience Participation Please…

• Without adjusting for liquidity, leverage, ….

• Have closed-end PERE funds outperformed equity REITs?
  • …won more than 50% of horse races…?

• Have closed-end PERE funds outperformed open-end “core” funds?
  • …won more than 50% of horse races…?
PERE Performance Relative to Equity REITs

• Benchmark: total return on index of publicly-traded equity REITs
  • From CRSP-Ziman
PERE Performance Relative to Equity REITs: IRR (Fund) Minus IRR (Benchmark)

= 0% if IRR (fund) - IRR (benchmark) = 0 +/- 0.5%
PERE Performance Relative to Equity REITs: IRR (Fund) Minus IRR (Benchmark)

Average IRR underperformance = -3.24%

= 0% if IRR (fund) - IRR (benchmark) = 0 +/- 0.5%

<table>
<thead>
<tr>
<th></th>
<th># of funds</th>
<th>% of funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRR (fund) – IRR (BM) &gt; 0</td>
<td>148</td>
<td>39%</td>
</tr>
<tr>
<td>IRR (fund) – IRR (BM) = 0</td>
<td>14</td>
<td>4%</td>
</tr>
<tr>
<td>IRR (fund) – IRR (BM) &lt; 0</td>
<td>217</td>
<td>57%</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100%</td>
</tr>
</tbody>
</table>
Fund under-performance relative to Equity REITs is concentrated in vintage years 2004-2008.
PERE Performance Relative to Equity REITs:
EM (fund) ÷ EM (Benchmark)
PERE Performance Relative to Equity REITs:  
\[ \text{EM (fund)} \div \text{EM (Benchmark)} = 1 \text{ if } \text{EM (fund)} \div \text{EM (benchmark)} = 1 \pm 0.05 \]

<table>
<thead>
<tr>
<th>Ratio of EM (fund) to EM (Benchmark)</th>
<th># of funds</th>
<th>% of funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM (fund) / EQ (BM) &gt; 1</td>
<td>160</td>
<td>42%</td>
</tr>
<tr>
<td>EM (fund) / EQ (BM) = 1</td>
<td>34</td>
<td>9%</td>
</tr>
<tr>
<td>EM (fund) / EQ (BM) &lt; 1</td>
<td>185</td>
<td>49%</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100%</td>
</tr>
</tbody>
</table>

Average EM ratio = 0.76

= 1.0 if \( \text{EM (fund)} \div \text{EM (benchmark)} = 1 \pm 0.05 \)
## PERE Funds With an International Exposure Have Underperformed

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Benchmark IRR</th>
<th>Fund IRR</th>
<th>Mean Difference</th>
<th>Benchmark Multiple</th>
<th>Fund Multiple</th>
<th>Mean difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All funds</td>
<td>379</td>
<td>10.75</td>
<td>7.51</td>
<td>-3.24</td>
<td>1.73</td>
<td>1.32</td>
<td>-0.40</td>
</tr>
<tr>
<td>Domestic</td>
<td>236</td>
<td>10.24</td>
<td>8.88</td>
<td>-1.36</td>
<td>1.68</td>
<td>1.40</td>
<td>-0.29</td>
</tr>
<tr>
<td>International</td>
<td>143</td>
<td>11.59</td>
<td>5.24</td>
<td>-6.35</td>
<td>1.80</td>
<td>1.20</td>
<td>-0.59</td>
</tr>
<tr>
<td>Low-risk</td>
<td>162</td>
<td>10.64</td>
<td>7.39</td>
<td>-3.24</td>
<td>1.75</td>
<td>1.34</td>
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<tr>
<td>High-risk</td>
<td>217</td>
<td>10.83</td>
<td>7.59</td>
<td>-3.24</td>
<td>1.71</td>
<td>1.31</td>
<td>-0.40</td>
</tr>
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(opp funds)
Opportunistic Funds Have Not Delivered Risk-Adjusted Returns

- Opportunistic funds have not (on average) delivered expected higher returns relative to lower risk funds
PERE Performance Relative to Open-End PERE Funds

• Benchmark: NCREIF ODCE Index
  • Total returns on index of open-end PERE funds
  • These funds invest in diversified portfolios of high quality (core) assets with little or no leverage
  • Entry & exit is allowed on a periodic basis
    • i.e., they provide some liquidity
PERE Performance Relative to NCREIF ODC: IRR

Average outperformance = 0.30%

<table>
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<tr>
<th>IRR (fund) − IRR (BM)</th>
<th># of funds</th>
<th>% of funds</th>
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<tr>
<td>&gt; 0</td>
<td>204</td>
<td>56%</td>
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<tr>
<td>= 0</td>
<td>12</td>
<td>8%</td>
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<td>&lt; 0</td>
<td>162</td>
<td>36%</td>
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= 1% if IRR (fund) − IRR (benchmark) = 1 +/- 0.5%
IRR Performance Relative to NCREIF ODCE Varies By Vintage Year

- Fund underperformance relative to NCREIF ODCE is concentrated in vintage years 2004-2008
PERE Performance Relative to NCREIF ODCE: Equity Multiple

PERE Performance Relative to NCREIF ODCE: Equity Multiple

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<th>EM (fund) / EQ (BM)</th>
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<td>= 1</td>
<td>31</td>
<td>8%</td>
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<tr>
<td>&lt; 1</td>
<td>135</td>
<td>36%</td>
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Average EM ratio = **0.94**

= 1.1 if EM (fund) ÷ EM (benchmark) = 1.1 +/- 0.05
### PERE Funds With an International Exposure Have Underperformed

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<td>236</td>
<td>6.82</td>
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<td>1.37</td>
<td>1.40</td>
<td>0.03</td>
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<td>143</td>
<td>7.85</td>
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<td>-2.62</td>
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<td><strong>Low-risk</strong></td>
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<td>7.06</td>
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- Opportunistic (high risk) funds have not (on average) delivered expected higher returns relative to lower risk funds.
Needed Adjustments for Liquidity, Leverage, & Cost of Waiting to be Called

• Relative to equity REITs & open-end funds, the typical closed-end PERE fund…
  1. is significantly less liquid
  2. uses more financial leverage
  3. requires investors (LPs) to maintain liquid assets for capital calls

• So…how do we handicap our 379 horse races to account for these differences?
Needed Adjustment for Liquidity?

• PERE investors should expect to receive an illiquidity premium

• Research in stock markets indicates *illiquid listed stocks* earn annualized returns that are at least 300 basis points > more liquid stocks

• And…illiquid listed stocks are MORE liquid than PERE funds

• Implied downward adjustment of average fund IRR for illiquidity…relative to equity REITs?
  • You decide…but at least 300 basis points annually
Needed Adjustment for Leverage?

• Over 2000-2018 time period, the use of leverage boosted equity REIT returns by over 300 basis points annually
• And…equity REITs typically employ about 35-40% leverage
• All funds in the NCREIF ODCE index use less that 20% leverage
• Typical leverage of PERE funds in our sample:
  • 60-70%...but much variation
• Implied downward adjustment of average fund IRR for leverage
  • At least 200 basis points annually
Needed Adjustment for Opportunity Cost of Waiting to be Called?

- Closed-end fund investors typically have no more than 10 days to wire capital when called by fund manager.
- There is an opportunity cost associated with maintaining liquid assets ("dry powder").
- We estimate this opportunity cost of waiting to be called to be 100-200 bps annually.
- Implied downward adjustment of reported fund IRR for this opportunity cost …
  - At least 100 basis points annually.
So...What Does PERE Performance Look Like After These Adjustments?

• Relative to Equity REITs…

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th></th>
<th>Opportunity</th>
<th>Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REIT IRR</td>
<td>Fund IRR</td>
<td>Liquidity</td>
<td>Leverage</td>
</tr>
<tr>
<td>All funds</td>
<td>10.75%</td>
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Average closed-end fund investor
Adjusted PERE Performance Relative to Equity REITs: IRR

PERE Funds that outperformed if we reduce fund performance by 600 basis points

Much lower % of PERE Funds outperformed their benchmark
So...What Does PERE Performance Look Like After These Adjustments?

- Relative to NCREIF ODCE

<table>
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<th>Average</th>
<th>Required adjustments for:</th>
<th>Adjusted difference</th>
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<tr>
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Doesn’t include a downward adjustment for risk!!
Important Caveats…

• PERE funds more attractive:
  • to investors who do not require/value liquidity
Important Caveats…

• PERE funds more attractive:
  • to investors who do not require/value liquidity
  • in a portfolio context
    • Closed-end PERE fund returns not highly correlated with returns on publicly-traded REITs & other stocks
What Can be Done to Avoid This Underperformance?

1. Market time PERE investments…. 

![Graph showing average fund IRR vs. average benchmark IRR for Equity REITs from 2000 to 2013, highlighting underperformance periods.]

Average fund IRR

Average Benchmark IRR

underperformance
What Can be Done to Avoid This Underperformance?

2. Avoid the worst performing funds/pick winners

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Fund IRR < Benchmark IRR

Worst performing funds
Two Obvious Investment Strategies, But....

Can it be done!
Observations/Suggestions for Investors…?

Our research suggests that…all else equal:

• Larger funds outperform smaller funds
• LPs are not typically compensated for the higher risk associated with opportunistic funds
• Funds with an international exposure should be approached cautiously
• Fund performance is positively associated with the performance of prior funds raised by the same PERE firm
  • i.e., performance is persistent
Observations/Suggestions for Investors…?

• Allocate more capital to investments in “core” properties/funds
  • With moderate leverage
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  • A “cloak of secrecy” permeates this industry
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• Allocate more capital to investments in “core” properties/funds
  • With moderate leverage

• Demand more & better data from fund managers
  • A “cloak of secrecy” permeates this industry

• Advocate for a cut in base fees and/or performance fees charged by manager
  • Especially from unproven managers
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