A Few Thoughts on Joint Ventures

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• **The Promote ← An Option**
  – Motivating examples
  – A simple illustration: promoted interest creates an option-like instrument
  – Money Partner: the promote lowers the expected return
    • A separate question (not addressed here): Was the lower return better than the alternative?
  – Operating Partner: the promote creates an incentive for:
    • Effort, and
    • Risk-taking

• The Expected Value of the Option
  – Increases with the volatility (or riskiness) of the venture
  – Two-case example v. continuum

• Better to Lower the Pref & the Promote?
  – As in most market downturns, fees are pressured downwards
  – Would both money and operating partners be better off with:
    • Lowered preferred return, and
    • Lowered promoted interest?
  – Performance = \( f(\text{effort, risk-taking, etc.}) \)
  – Lowered pref & promote might motivate:
    • More effort, and
    • Less risk-taking
Possible Applications

- For our purposes, joint ventures (JVs) typically involve:
  - money partner (contributes equity capital), and
  - operating partner (e.g., developer).

- There are many possible instances when joint ventures (JVs) are used.

- But, for purposes of our discussion, let’s consider two:
  - corporate user hires developer to build industrial park/building, or
  - “credit” tenant signs lease and receives contingent interest in property’s reversionary value (ala law firms)

- A few related thoughts:
  - In economics, these are “principal/agent” problems.
  - The incentive fee (or operating partner’s “promoted” interest) creates an option-like return for the operator.
  - Need to understand the value of the option from the perspective of either the money partner or the operating partner.
Incentive Fees & Principal/Agent Issues: Numerical Example

- Fund-Level Return Distribution:
  - Average Return: 12.5%
  - Volatility: 15.0%

- Fund Incentive Structure:
  - Ongoing fees: 0.5%
  - Investor’s Preference: 12.0%

- Residual Split:
  - Investor: 50%
  - Operating Partner: 50%

- Notes:
  - The operating partner’s “promoted” interest creates an option-like return for operator.
  - The value of the option reduces the investor’s upside.
Think of Fund as a Joint Venture: Fund-Level Returns & Operator’s Promote

Illustration of Venture-Level Returns and Operating Partner's Participation

Distribution of Expected Returns

Likely Returns

Estimated Frequency of Asset-Level Returns

JV Participation

-33% -22% -11% 1% 12% 23% 34% 46% 57%

0% 5% 10% 15% 20% 25%

-33% -22% -11% 1% 12% 23% 34% 46% 57%

0% 5% 10% 15% 20% 25%
Returns Before and After Incentive Fee (= JV Participation)

Illustration of Venture-Level Returns before and after the Venture Partner's Participation

Likely Returns before JV Participation

Likely Returns after JV Participation
Incentive Fees and Principal/Agent Issues: Numerical Example (continued)

- Fund-Level Returns after Operating Partner:
  - **Likely Returns:**
    - Fund-Level Returns before Operating Partner 12.5%
    - Ongoing (Monitoring) Fees 0.5%
    - Operating Partner’s Participation 3.0%
    - Investor’s Net Return 9.0%
  - **Volatility (Standard Deviation):**
    - JV Deal before Operating Partner 15.0%
    - Operating Partner’s Participation 3.5%
    - Investor’s Net Return 11.5%
- Notes:
  - The operating partner’s “promoted” interest reduces the investor’s net return by 300 bps:
    - Even though the value of the promote equals zero at the most likely return,
    - This is attributable to operating partner’s asymmetric participation in returns.
  - The reduction in the investor’s standard deviation is a statistical illusion:
    - The investor still receives 100% of the economic downside.
Incentive Fees and Principal/Agent Issues: Numerical Example (continued)

• A simple way to think of the average promote:

<table>
<thead>
<tr>
<th>Probability</th>
<th>Gross Returns</th>
<th>Promote</th>
<th>Net Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>24.0%</td>
<td>6.0%</td>
<td>18.0%</td>
</tr>
<tr>
<td>50%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Average</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

• Note: The appropriate way to calculate the expected promote:

\[ E(\pi) = \int_{\psi}^{\infty} \kappa(x - \psi)f(x) \, dx \]

where: \( \pi \) = the “promote”, \( \kappa \) = operating partner’s participation in the excess profits, \( \psi \) = investor’s preference, and \( f(x) \) = the distribution of venture-level returns, \( x \).

• Because of the operating partner’s asymmetric participation:
  – The average expectation does not equal the expectation of the average:

\[ E(\pi) = \int_{\psi}^{\infty} \kappa(x - \psi)f(x) \, dx \neq \kappa(\bar{x} - \psi) \]
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Joint Ventures: Value of Operator’s Promote Increases with Volatility

- With greater property volatility, the operating partner’s has a greater probability of achieving a larger promoted interest.
Joint Ventures:
Value of Operator’s Promote Increases with Volatility (continued)

- Investor’s net return declines with greater venture-level volatility.
- Of course, investor can alter “pref” &/or promote, given \( E(\text{volatility}) \).

Illustration of Joint Venturer's Increasing Expected Participation
as Project Volatility Increases

![Graph showing the relationship between project volatility and joint venturer's expected participation and investor's expected net return.](image)
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Pressures on Fees (including the Pref/Promote Structure)

- Given the poor risk-adjusted performance of (some) value-added and opportunistic funds, institutional investors are more circumspect about future financial arrangements:
  1. preferred returns are going up,
  2. “promotes” are going down, and
  3. governance/control provisions are swinging back towards the “money” partner.
Appendix: Tradeoff – Preference v. Promote

• Assuming venture-level performance is unchanged, what’s the tradeoff between the preferred return & promote?

<table>
<thead>
<tr>
<th>JV Deal before Operating Partner:</th>
<th>Sensitivity of Preference &amp; Promote Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Return ($\mu_V$)</td>
<td>12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0%</td>
</tr>
<tr>
<td>Standard Deviation ($\sigma_V$)</td>
<td>15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0%</td>
</tr>
<tr>
<td>Investor’s Preference ($\psi$)</td>
<td>12.0% 11.0% 10.0% 9.0% 8.0% 7.0% 6.0% 5.0% 4.0% 3.0% 2.0% 1.0% 0.0%</td>
</tr>
<tr>
<td>Residual Splits:</td>
<td></td>
</tr>
<tr>
<td>Investor</td>
<td>50.0% 54.0% 57.5% 60.7% 63.5% 66.1% 68.4% 70.5% 72.4% 74.1% 75.7% 77.1% 78.4%</td>
</tr>
<tr>
<td>Operator (Promote = $\kappa$)</td>
<td>50.0% 46.0% 42.5% 39.3% 36.5% 33.9% 31.6% 29.5% 27.6% 25.9% 24.3% 22.9% 21.6%</td>
</tr>
</tbody>
</table>

| JV Deal after Operating Partner: |                                                |
| Likely Returns:                  |                                                |
| JV Deal before Operating Partner:| 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% 12.0% |
| Operating Partner’s Participation| 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% |
| Investor’s Net Return             | 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% 9.0% |

Volatility (Standard Deviation):

| JV Deal before Operating Partner: |                                                |
| Operating Partner’s Participation| 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% 15.0% |
| Investor’s Net Return             | 3.1% 2.9% 2.8% 2.6% 2.4% 2.3% 2.2% 2.1% 2.0% 1.9% 1.8% 1.8% 1.7% |

| JV Deal after Operating Partner: |                                                |
| Operating Partner’s Participation| 3.1% 2.9% 2.8% 2.6% 2.4% 2.3% 2.2% 2.1% 2.0% 1.9% 1.8% 1.8% 1.7% |
| Investor’s Net Return             | 11.9% 12.1% 12.2% 12.4% 12.6% 12.7% 12.8% 12.9% 13.0% 13.1% 13.2% 13.2% 13.3% |
Appendix: Tradeoff – Preference v. Promote (continued)

- For an equivalent operating partner’s expected promote, here’s the tradeoff between the preferred return and the promote.

![Graph showing the relationship between Operator's Promote as a Function of the Investor's Preference. The x-axis represents the Investor's Preferred Return (ψ) ranging from 0% to 12%, and the y-axis represents Operator's Promote (κ) ranging from 0% to 50%. There is a downward sloping line illustrating the tradeoff.]
The previous two slides suggest that the operating partner can earn the same expected promote – with less risk – by reducing its promote in return for the investor reducing its preferred return.

In the extreme (and given our assumptions), the operating partner ought to be willing to reduce its promote to 20% provided the investor eliminates its preferred return:

– Looks a lot like the private equity model

Endogeneity problem: Operating partner’s effort level is related to the probability of realizing the promote.

This endogeneity problem argues – all else being equal – for a lower preference and a lower promote; so that the operating partner expends more effort and, hence, the venture earns a larger (risk-adjusted) return.

In addition to effort, the venture-level performance is influenced by the property type and the skill of the operating partner.
Appendix: Effort = \( f \) (Expected Promote > 0)

- But, the operating partner’s effort should be a function of the probability that the expected promote will be greater than zero (or realized).
Appendix: Venture Performance = $f$ (Effort)

- In turn, the venture’s performance is a function of the operating partner’s effort.

Illustration of Forecasted Core Real Estate Returns with Leverage