“Corporate Investment and Asset Price Dynamics: Implications for SEO Event Studies and Long-Run Performance”

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Overview

- SEOs: Price runup, announcement effects, and long-run underperformance.
- CFG argue: a firm = an expansion option + assets in place.

1. Exercise the option only if sufficiently in the money ⇒ price runup.
2. Asymmetric information ⇒ announcement effects.
3. $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}}$ ⇒ investing/financing = a drop in risk.

- An impressive and ambitious paper!
With $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}}$ hard-wired in the model, not clear how to extend the real-options framework to explain other related anomalies.
An alternative proposition

With $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}}$, the value anomaly is tricky

With $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}}$, the payout anomaly is tricky

A potential extension of CFG
The relative risk of growth options and assets in place varies over business cycles:

- **Expansions:** $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}}$

- **Recessions:** $\beta_{\text{Assets in Place}} > \beta_{\text{Growth Option}}$


The Value Anomaly

- If $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}}$, rationalizing the value anomaly is tricky.

- The inequality does not necessarily hold in Berk, Green, and Naik (1999).

- The inequality holds in Gomes, Kogan, and Zhang (2003):
  - Value firms have higher equity duration than growth firms.
• The inequality holds in Carlson, Fisher, and Giammarino (2004, JF):
  
  • Value firms have higher operating leverage than growth firms.
  
  • Weak empirical support: Xing and Zhang (2004).

Xing and Zhang (2004) measure operating leverage, $l_1$, as the elasticity of operating profits w.r.t. sales — Mandelker and Rhee (1984) and Penman (2001).

$$\log(\text{Operating income after depreciation}) = l_0 + l_1 \log(\text{Sales}) + \varepsilon_t$$

• A sample of manufacturing firms from 1963 to 2002:

<table>
<thead>
<tr>
<th></th>
<th>Growth</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Value</th>
<th>Value - Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>$l_1$</td>
<td>1.025</td>
<td>1.013</td>
<td>0.908</td>
<td>0.919</td>
<td>0.969</td>
<td>-0.055</td>
</tr>
<tr>
<td>$t(l_1 = 1)$</td>
<td>0.215</td>
<td>0.185</td>
<td>-1.716</td>
<td>-1.365</td>
<td>-0.586</td>
<td>-1.07</td>
</tr>
</tbody>
</table>
The Payout Anomaly

- The flip side of the SEO anomaly (e.g., Ikenberry et al. (1995))

- CFG: $\beta_{\text{Growth Option}} > \beta_{\text{Assets in Place}} \Rightarrow \text{payout (not investing)} = \text{risk} \uparrow$

- But Ikenberry et al.: the payout anomaly is stronger in value firms.

- The model implies that value firms have higher growth options.

- Counterintuitive.
A Potential Extension

- The $Q$-theory is qualitatively consistent with the value, payout, and SEO anomalies — Zhang (2004, “Anomalies”).

- Abel, Dixit, Eberly, and Pindyck (1996) — The $Q$- and real options theories both give the correct answers, but real options approach add option-interpretations.

- Abel et al.: A firm = abandon options + expansion options + assets in place.

- Investing = Exercising the marginal expansion (call) option 
  + buying the marginal abandon (put) option

- Irreversible investment as in CFG rules out abandon options.
**Conjecture**: Maybe the abandon option is more in the money and riskier in bad times, especially for value firms…

**Panel A: Call Value**

**Panel B: Put Value**
Conclusion

- An impressive paper!

- Need to model the abandon option to capture downside risk and to explain the value and payout anomalies.

- The CFG-mechanism on SEO-underperformance still works because the expansion option is riskier in good times when investing is important.