Discussion: “Reversals and the Returns to Liquidity Provision”

Winston Dou (Wharton)
Motivation

What is the expected return of *liquidity provision* in capital markets?

- Economists: A central question in asset pricing
- Investors: The *immediacy costs* they face in their trading
- Regulators: A vital role of market liquidity in maintaining *financial stability*

Although technological advancements can enhance market liquidity, they also introduce new challenges

- e.g., decimalization, electronic trading facilities, algo trading, big data
- e.g., Al-powered trading *(Dou_Goldstein_Ji, 2023)*
- Technologies promote herding with similar trading decisions driven by *the same strong signals* *(e.g., SEC Chair, Gary Gensler)*
- The value of liquidity provision & market illiquidity remain significant
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A difficult question to address

Key challenge: What is “market liquidity”?  
- It is determined by the demand and supply of “immediacy” in trading (Grossman-Miller, 1988)

Market liquidity is an abstract and multi-dimensional concept (e.g., Kyle, 1985)
- Numerous factors from both the demand and supply sides play a role
- Pinning it down to just one number or statistic is tough

Different facets of market liquidity may have distinct market prices
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The objective of this paper

Estimate the expected return from providing various types of liquidity

Step 1: Identify the component in reversals due to liquidity provision (IRRX)
  - Remove the following two components from the standard reversals (REV)
    - The post-earnings-announcement drift (PEAD)
    - The industry momentum (IMOM)

Step 2: Dissect liquidity-driven return reversals to identify their sources, focusing on:
  - Inventory risk, measured by stock return volatility
  - Inventory duration, measured by stock turnover
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Decomposition of short-term return reversals

Panel A: Strategy average monthly excess return (%)

<table>
<thead>
<tr>
<th></th>
<th>REV</th>
<th>PEAD</th>
<th>IMOM</th>
<th>IRR</th>
<th>IRRX</th>
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<tr>
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<td>0.31</td>
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<td>0.74</td>
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<td></td>
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<td>[5.45]</td>
<td>[3.57]</td>
<td>[5.40]</td>
<td>[9.35]</td>
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</table>

Panel B: Results from $\text{REV}_t = \alpha + \beta_{\text{IRR}X} \text{IRR}X_t + \beta_{\text{PEAD}} \text{PEAD}_t + \beta_{\text{IMOM}} \text{IMOM}_t + \epsilon_t$

<table>
<thead>
<tr>
<th></th>
<th>$\alpha$</th>
<th>$\beta_{\text{IRR}X}$</th>
<th>$\beta_{\text{PEAD}}$</th>
<th>$\beta_{\text{IMOM}}$</th>
<th>Adj. $R^2$ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.13</td>
<td>0.76</td>
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<td>-0.53</td>
<td>87.0</td>
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<td>[1.73]</td>
<td>[27.8]</td>
<td>[-17.4]</td>
<td>[-30.4]</td>
<td></td>
</tr>
</tbody>
</table>

- The average return of IRRX is very significant
- High adjusted $R^2$
Inventory risk (stock return volatility)

- About 0.6% for 13 days ⇒ about 1.2% monthly excess return
Inventory duration (stock turnover)

- About 0.8% for 60 days ⇒ about 0.4% monthly excess return
1. IRRX ≈ liquidity-provision component?

The idea: remove the following components from the standard reversals

- Drift resulting from an under-reaction to firm-level cash flow
- Drift resulting from an under-reaction to industry-level cash flow news

PEAD and IMOM may be insufficient

- Under-reaction to firm-level cash flow news
  - Return predictability via input-output links (Cohen_Frazzini, 2008)
- Under-reaction to industry-level cash flow news
  - Lead and lag industries (Hong_Torous_Valkanov, 2007)
  - Cross-industry MOM via the competition network (Dou_Wu, 2023)
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2. Identifying the expected return on inventory risk

For such identification, causal inferences are necessary

- Return volatility and return reversal are both endogenous
- The association may not reflect the causal relation (aim to establish)

Reverse causality issues:

- High return volatility $\leftarrow$ strong and quick return reversals

Noise trader risk

- The monthly standard deviation of retail investors order imbalance (Boehmer, Jones, Zhang, Zhang, 2021)
- It is the volatility risk that comes from short-term noise trading (and thus captures the inventory risk)
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Inventory risk and duration are both supply-side factors of liquidity

- How about the demand-side factors of liquidity?

Trading intensity of noise traders

- Retail investors’ absolute monthly order imbalance

Price impact estimated based on the demand system (Koijen, Yogo, 2019)

- What are their relations with the dynamics of return reversals?
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Conclusion

- A significant empirical contribution on an important topic

- What I appreciate the most:
  - A useful estimate of the expected returns from liquidity provision
  - A valuable perspective on the pricing of liquidity from various origins

- Suggestions:
  - Refine the metric for the liquidity-provision component in the reversals
  - Sharpen the identification of the impacts of inventory risk
  - Explore the factors influencing liquidity from the demand perspective