Does Algorithmic Trading Affect Forced CEO Turnover?

(By Jaewoo Kim, Jun Oh, Hojun Seo and Luo Zuo)

Discussed by Xiumin Martin

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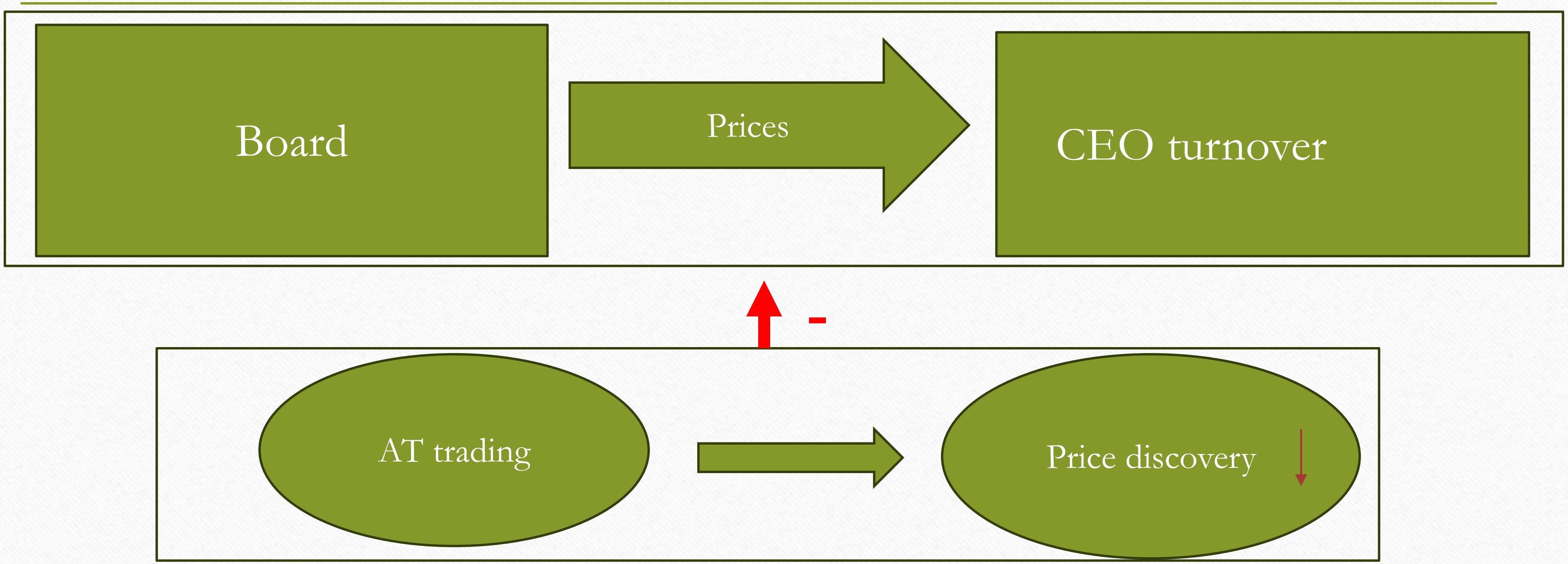
Summary-RQ

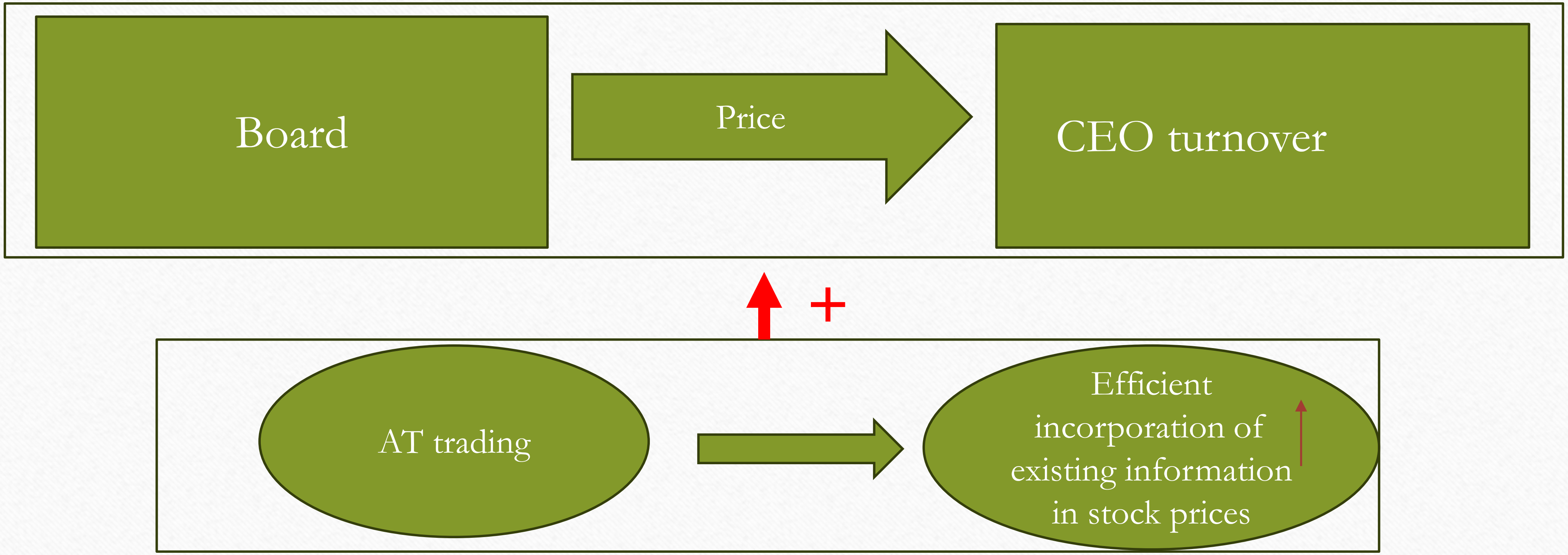
- Does algorithmic trading (AT) affect price-based decisions making by board of directors?

- Decision making- firing

Summary -Story



Summary -Story



Summary-findings

Findings:

- Main findings:
  - AT reduced directors' reliance on prices to fire CEOs.
- In the cross section, the results are stronger
  - Growing, steeper incentive compensation, dispersed investor base
  - In scenarios where AT is intense
  - Directors have poor information and when they rely on stock return for decision making

Overall assessment

- Very well done empirically
- Incremental contribution
- Some concerns about the two alternative predictions
- Alternative explanations

Comment 1
Relevant literature and incremental contribution

- Stock market is not a side show
- CEO turnover literature
- AT literature

Comment 1
Stock market is not a side show

- Prices have real effect (Morck, Shleifer, and Vishny, 1990)
  - Informational role
  - Financing role
  - Contracting role (Holthausen, Larcker, Sloan 1995)

Comment 1
Prices are important

- Informational role
  - Managers learn from prices about investment opportunities
  - Auditors
  - Lenders
  - Regulators

The current paper finds that boards learn from stock prices. How does it incrementally add to DeFond and Hung (2004, JAR)?

Comment 1
DeFond and Hung (2004)

$$
\begin{aligned}
Turnover = {} & \alpha_0 + \beta_{1,n}(Firm\ performance\ measures) \\
& + \gamma_{1,n}(Investor\ protection\ measures) \\
& \boxed{+ \delta_{1,n}(Firm\ performance\ measures * Investor\ protection\ measures)} + \varepsilon.
\end{aligned}
$$

Comment 1
DeFond and Hung (2004)

Panel A: Logit regression for the entire sample (dependent variable = *Turnover*)	Model 1		Model 2	
	Coeff.	Two-Tailed *p*-values	Coeff.	Two-Tailed *p*-values
Intercept	0.15	<0.01	−1.71	<0.01
High stock price informativeness			−0.07	0.14
Strong enforcement				
High stock price informativeness ∗ *Strong enforcement*				
RET_{t-1}	−0.03	<0.01	−0.05	0.59
ΔE_{t-1}	−0.07	0.08	−1.79	<0.01
RET_{t-1} ∗ *High stock price informativeness*			−0.24	0.04
RET_{t-1} ∗ *Strong enforcement*				
RET_{t-1} ∗ *High stock price informativeness* ∗ *Strong enforcement*				
ΔE_{t-1} ∗ *High stock price informativeness*			1.72	0.02
ΔE_{t-1} ∗ *Strong enforcement*				
ΔE_{t-1} ∗ *High stock price informativeness* ∗ *Strong enforcement*				
Significance of model, *p*-value	0.01		0.01	

Comment 1
Corporate governance

Role of corporate boards:

- Hiring
- Firing
- Remuneration

Comment 1
Corporate governance

Role of corporate boards:

- Hiring ?
- Firing √
- Remuneration

Comment 1
Corporate governance

Role of corporate boards:

- Hiring
  - 40% CEOs left the firm after 18 months (Forbes.com, Apr. 9, 2009)
  - 64% CEOs left the firm in 4 years.

Comment 1
Corporate governance

Hiring decision

- Does a candidate CEO's stock informativeness affect the likelihood of him being hired?
- Does a candidate CEO's stock informativeness affect hiring quality, conditional on him being hired?

Comment 1
AT literature

- Weller (2018, RFS) finds that AT reduces the overall stock price informativeness
- Ye, Zheng and Zhu (2022, JAE) find that AT reduces managerial learning from prices in making investment decisions.

What is the current paper's incremental contribution?
Why would boards learn differently from managers?

Comment 2
Two alternative predictions

- Negative effect
  - Price discovery ↓ (Weller 2018, RFS)
- Positive effect
  - The incorporation of existing information into stock prices ↑ (Lee and Watts, 2021, TAR)

Which channel likely affects boards' learning in the first order?

Weller (2018, RFS)

- AT affects price informativeness in two ways:

  (1) Information acquisition ↓ (Weller, 2018)

  (2) Incorporation existing information into stock prices ↑ (Zhang 2017; Chakrabarty, Moulton and Wang 2017, Lee and Watts 2021)

    - Efficient quoting

- (1) >> (2)
- AT reduces price informativeness!

Comment 3
Do results have to come from boards' learning?

- Can it just be shareholders' learning from prices?
- Does it matter whose learning contributes to the findings?
- Cross-sectional tests do not help:
  - Young/outside CEOs ⟷ Responsive to shareholders' sentiment
  - # of special board meetings ⟶ Response to shareholders' sentiment

Comment 3
Do results have to come from boards' learning?

- How about the compensation channel?

AT ↑

Comp (p) ↓

Effort is less sensitive to prices ↓

Turnover is less sensitive to prices ↓

Comment 4
What do boards learn from prices?

CEO performance:

- The quality of CEO-firm match
- CEO effort

Conclusion

- Well done.
- Beef up incremental contribution.
- Is alternative prediction credible?
- Consider alternative explanations.