Momentum

Discovered in Jegadeesh and Titman (1993) is one of the most important anomalies in asset pricing

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Highly profitable, long-lasting, everywhere !!!

In the past decades, numerous theories and empirical analyses to explain momentum

This paper: offers a fresh explanation of momentum

Summary of the paper

Fact:

"News mostly drive overnight returns, whereas investors' trading mostly drives intraday returns"

Authors use this fact to test theories of momentum and reversal with 1926-2019 sample

Findings:

Portfolios formed on past intraday returns display momentum without long-term reversal

Portfolios formed on past overnight returns display only long-term reversal

Conclusion:

Momentum is driven by investors' underreaction to private information conveyed by others' trades, not by underreaction to public news

Summary of the paper

Evidence supporting the investors' underreaction to privation information channel:

1) Stronger momentum sorted by past intraday returns on low-volume days; private information is incorporated into prices more slowly when volume is low

2) A strong positive association between past intraday returns and analyst forecast error

Robustness checks: results not driven by liquidity effects at the open, stale overnight returns, bid-ask bounce between day and night returns, cannot be explained by the "frog-in-pan" hypothesis that investors are less attentive to information that arrives continuously in small amounts, cannot be explained by clientele change over time (hold for both pre- and post-1963 samples)

Empirical analyses are thorough and thoughtful + discussions on alternative channels are very careful

A great paper, very fun to read, learned a lot !!!

Comment 1: firm news vs private information

"News mostly drive overnight returns, whereas investors' trading mostly drives intraday returns."

Can you perform direct test?

Test 1: Combine post-2000 high-frequency news and market data

1) News-driven overnight return (e.g., at least one news between 4pm-9:30am)

2) Non-news-driven overnight return

3) News-driven intraday return (e.g., sum up 15-min returns with news)

4) Non-news-driven intraday returns

If the current hypothesis is correct, we would expect:

- non-news-driven intraday returns to generate momentum

- news-driven overnight return to generate long-term reversal

Comment 1: firm news vs private information

Test 2: Perform jump test on intraday and overnight returns between 1926-2019

Use jumps as proxy for large information shocks (Jiang and Zhu, 2017)

1) Overnight jump return

2) Overnight non-jump return

3) Intraday jump return

4) Intraday non-jump return

• Intraday non-jump return -> long-term momentum

• Overnight jump return -> long-term reversal

Comment 2: could intraday return capture overnight news?

1966 to 2019 sample, 9:30am trade price to compute intraday return

Panel B: Portfolios of months −12 to −2 return ($H = (m − 12, m − 2)$)

Signal type	1	2	3	4	5	6	7	8	9	10	10−1
24-hour	−0.71	−0.25	−0.11	−0.005	0.13	0.2	0.24	0.33	0.37	0.55	1.26
	[−3.92]	[−2.38]	[−1.55]	[−0.08]	[2.54]	[4.14]	[4.79]	[5.96]	[6.35]	[5.35]	[5.75]
Intraday	−0.79	−0.17	−0.002	0.045	0.069	0.16	0.15	0.23	0.29	0.38	1.17
	[−4.68]	[−1.96]	[−0.04]	[0.75]	[1.37]	[3.22]	[2.93]	[4.81]	[5.28]	[5.14]	[6.87]
Overnight	−0.005	−0.041	−0.058	0.048	0.053	0.12	0.16	0.042	0.12	−0.051	−0.046
	[−0.05]	[−0.65]	[−1.00]	[0.98]	[1.11]	[2.51]	[3.58]	[0.82]	[2.1]	[−0.38]	[−0.31]

1989 to 2015 sample, 9:45am mid-quote to compute intraday return

*Panel B*: Portfolios of months −12 to −2 return ($H = (m − 12, m − 2)$)

| Signal type	1	2	3	4	5	6	7	8	9	10	10−1
24-hour	−0.64	−0.24	−0.025	0.015	0.16	0.22	0.24	0.25	0.22	0.36	0.99
	[−3.24]	[−1.68]	[−0.22]	[0.16]	[1.84]	[2.81]	[3.06]	[3.3]	[2.57]	[2.57]	[3.27]
Intraday	−0.55	−0.054	−0.003	0.14	0.1	0.17	0.24	0.18	0.15	0.22	0.77
	[−3.26]	[−0.49]	[−0.03]	[1.56]	[1.2]	[2.3]	[3.36]	[2.71]	[2.21]	[2.44]	[3.35]
Overnight	−0.28	−0.076	0.068	0.12	0.1	0.16	0.24	0.17	0.14	−0.062	0.22
	[−2.52]	[−0.76]	[0.84]	[1.5]	[1.27]	[2.19]	[3.02]	[2.33]	[1.71]	[−0.59]	[1.38]

Quote return typically makes momentum stronger, if the return difference is not driven by sample difference, then likely be driven by the choice of open price; it takes time for the market to process overnight news, thus 9:30am-4:00pm intraday return could capture market reaction to overnight news

Comment 2: could intraday return capture overnight news?

Another possibility is that investors trade on overnight news not only right after market open, but also right before market close for liquidity reasons:
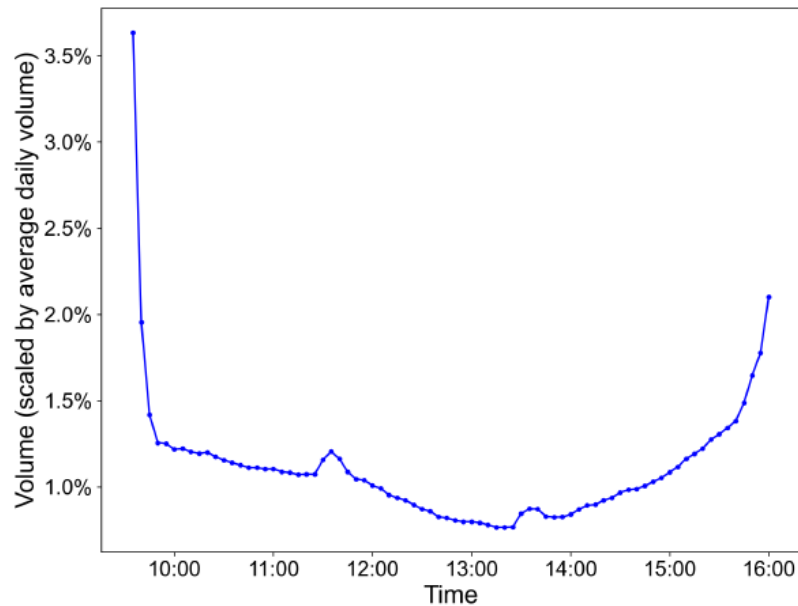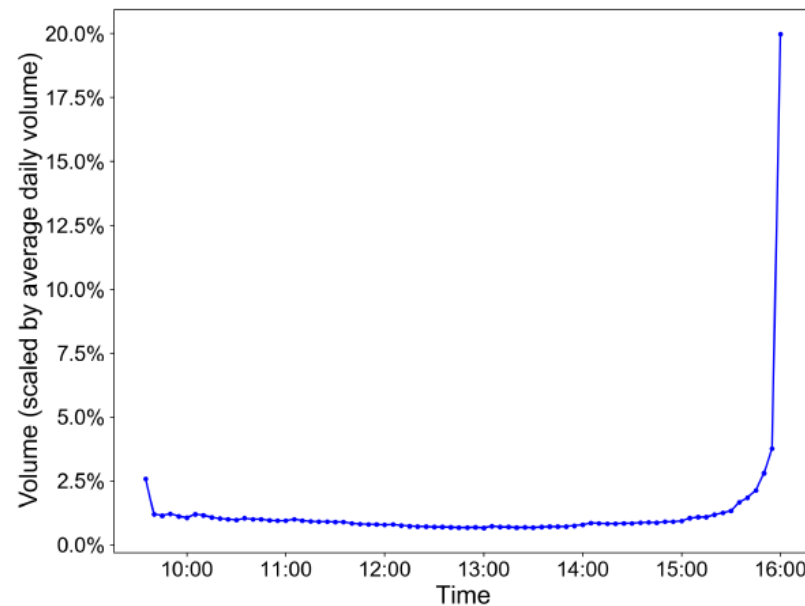
(a) 1993 Volume   (b) 2017 Volume

Jiang and Yao (2021)

It is also possible that clientele effect could play a role here (e.g., institutions prefer to trade at the close, retail investors prefer to trade at the open)

Comment 2: could intraday return capture overnight news?

Test 1: for the post-1993 TAQ sample, divide intraday return into three components:

9:30am-10:00am, 10:00am-3:30pm, 3:30pm-4:00pm

Understand the source of the momentum

- If momentum is mainly generated by 9:30am-10:00am return, then it could be under-reaction to overnight news

- If momentum is mainly generated by 10:00am-3:30pm return, more consistent with the slowly diffusion of private information channel

- If momentum is mainly generated by 3:30pm-4:00pm return, then it could come from institutions' periodical rebalancing (Heston, Korajczyk, and Sadka, 2010)

Comment 2: could intraday return capture overnight news?

Test 2: separate intraday returns into those preceded by overnight news and those without

For the post-2000 sample, overnight news are directly available from RavenPack

For the 1926-2019 sample, use overnight return jump to proxy overnight news

- If past intraday returns not preceded by overnight news generate equally strong or even stronger momentum, result more consistent with private information diffusion

- If past intraday returns preceded by overnight news generate stronger momentum, then momentum based on intraday return could still capture overnight news effect

- Can also examine the volume effect here, because volume not only affects the speed of information diffusion for private information, but also for overnight public information

Comment 2: could intraday return capture overnight news?

Test 3: explore the change of pre-market trading hours

Do you see any variation in the momentum/reversal generated by intraday/overnight returns around the launch of pre-market trading?

Pre-market trading would allow investors to better process overnight news before 9:30am

If momentum generated by intraday return becomes weaker after the launch of pre-market trading, then the intraday return (9:30am-4:00pm) measured before the launch would likely capture overnight news

Comment 3: market news vs private information

Could intraday return movement capture delayed reaction to market-wise information instead of private information?

- Early sample: only regular-hour trading, investors cannot trade market news overnight

- Recent sample: investors still have more incentive to trade market news intraday due to liquidity

Test on the effect of market news:

By using the price-delay measure from Hou and Moskowitz (2005)

Captures whether a stock processes market information with a delay

Comment 4: why private info generates long-lasting momentum

Mondria, Vives, and Yang (2022):

They propose a model in which investors cannot costlessly process information from asset prices. At the trading stage, investors are boundedly rational, and their interpretation of prices injects noise into the price, generating a source of endogenous noise trading. Their setup predicts price momentum.

Test: directly explore the rationality/sophistication of the shareholder base

Institutional holding%

Retail trading activity (Boehmer, Jones, Zhang, Zhang, 2021)

Conclusion

Fascinating paper that offers a fresh look at momentum

Very well written and very enjoyable to read

More tests to sharpen the results

I look forward to reading future versions!

Selective References

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