

Institutional Trading around Corporate News: Evidence from Textual Analysis

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Introduction – Backgrounds

- Institutional investors play a great role in the incorporation of new information into market prices.
- A number of studies proved institutions' superior trading skills.

Introduction – Motivation

- However, the mechanism of how institutional investors use information to trade, and how quickly their information-motivation trades are reflected in stock prices, is far from clear.

Introduction – Research Problem

- Whether institutional investors chiefly predict or chiefly respond to news releases?
- Whether institutional trading predicts returns?

Introduction – Contribution

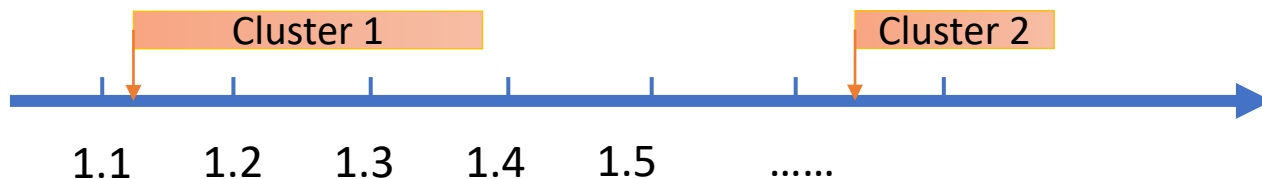
- Our news **data set** captures the timeliness of the initial news release on a corporate topic more accurately than data used by prior researchers.
- Provide evidence of a substantial **link** among news tone, institutional trading, and the price reaction of stocks for unanticipated news releases
- Show that institutions' prompt processing and interpretation of unanticipated public news contributes to the **price discovery process** for stocks to a greater degree than their ability to predict such news.

Research Design – Data

- News sample:
 - Factiva database (large breadth of news) 2000.1.1 ~ 2010.12.31
 - each contain at least 50 words and for which the first 25 words contain a company identity. → 1,714,336 matched to Compustat
 - Remove articles from newspapers and magazines, only focus on bulletin and [-3,3] trading days around earnings announcements → only focus on unanticipated news
 - News content measures
 - **Neg_net** = $(\text{\#neg words} - \text{\#posi words}) / \text{\#total words}$
 - **Neg** = $\text{\#neg words} / \text{\#total words}$

- News cluster:

- keep the timestamp of the first news, until the coverage stops for at least a day
- take the average tone within the cluster



Research Design——Data

- Institutional trading data
 - ANcerno Ltd
 - Measure: (rescale by SHROUT)
 - Total of numbers of shares traded, regardless of directions
 - Net shares traded (trading imbalance)
 - Abt: normalize trading imbalance at the firm level by subtracting a firm's trading imbalance by its historical trading imbalance during days $[-250, -20]$
- During 2000 and 2010, ANcerno covers a total of 1,072 institutions, with 386 money managers, 686 plan sponsors, and a total of \$40.2 trillion in trading volume

Research Design

- Institutional trading around news releases
 - Portfolio analysis: form quintile portfolios based on *Neg_net* and examine the abnormal trading imbalance
 - Regression analysis

$$Abt_{i,t} = \alpha + \beta \text{ Neg_net}_{i,t} + \theta \text{ Controls}_{i,t-1} + \varepsilon_{i,t},$$

- Intraday results of trading reaction to news

Research Design

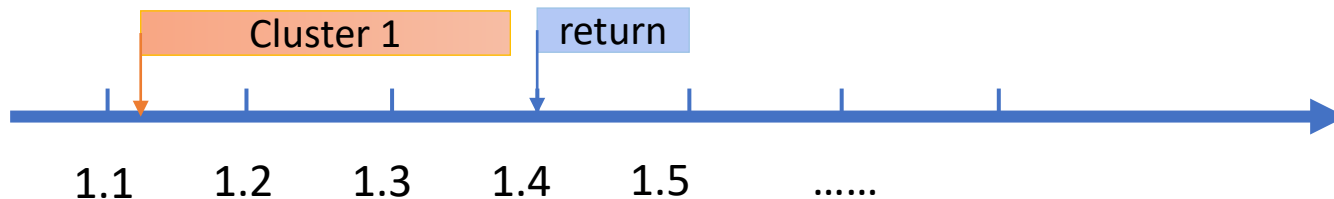
- Return predictability of institutional trading

- News tone predict returns?

$$adjR_{i,t+1} = \alpha + \beta Neg_net_{i,t} + controls_{i,t} + \epsilon$$

- whether institutional trading predicts returns over and above the predictability of news tone?

$$adjR_{i,t+1} = \alpha + \beta Neg_net_{i,t} + Abt[0]_{i,t} + controls_{i,t} + \epsilon$$



Research Design

- whether these effects reinforce each other?

	Institutions buy	Institutions sell
Negative news	Quadrant 1: Contrarian trades	Quadrant 2: Reinforcing trades
Positive news	Quadrant 3: Reinforcing trades	Quadrant 4: Contrarian trades

- Run the return prediction regressions separately for contrarian and reinforcing trades.
- Test the reinforcement effect by creating a dummy variable, Q23_dummy

Empirical Results

Table 4

Institutional trading and negative tone: Portfolio analysis

A. Abnormal trading imbalance (% of abnormal share turnover) around news announcement

Day	Neg_net quintile					Difference	
	1	2	3	4	5	5-1	t-stat.
-1	-0.0043	-0.0038	-0.0025	-0.0039	-0.0064	-0.0021	(-1.35)
0	-0.0053	-0.0049	-0.0037	-0.0060	-0.0125	-0.0072	(-4.36)
1	-0.0033	-0.0040	-0.0032	-0.0034	-0.0056	-0.0022	(-1.50)
2	-0.0033	-0.0036	-0.0033	-0.0034	-0.0047	-0.0014	(-0.55)

B. Abnormal trading imbalance on day 0 of portfolios first sorted on a firm trait, then on Neg_net

Neg_net quintile	Market cap			Media coverage			Past-month ret. momentum		
	Large	Medium	Small	High	Medium	Low	High	Medium	Low
1	-0.0021	-0.0046	-0.0086	-0.0047	-0.0054	-0.0050	-0.0031	-0.0031	-0.0087
5	-0.0022	-0.0134	-0.0225	-0.0056	-0.0118	-0.0184	-0.0115	-0.0086	-0.0156
5-1	-0.0001	-0.0088	-0.0140	-0.0009	-0.0064	-0.0134	-0.0084	-0.0055	-0.0069
	(-1.49)	(-3.12)	(-4.48)	(-0.30)	(-2.31)	(-5.04)	(-3.14)	(-2.48)	(-2.46)

- More negative news is associated with a higher amount of net-selling, but only significant in day 0
- the magnitude of the difference is the largest for firms with the smallest size, the lowest media coverage, and the largest momentum

Empirical Results

Table 5
Institutional trading and news tone: Regression analysis

	<i>Abt</i> at day(s)				
	[− 5, − 3]	[− 2, − 1]	0	[1, 2]	[3, 5]
<i>Neg_net</i>	0.055 (0.93)	−0.036 (−0.79)	−0.103*** (−3.25)	−0.043 (−0.92)	0.017 (0.28)
<i>lnme</i>	−0.007* (−1.71)	−0.008** (−2.18)	−0.007*** (−2.90)	−0.008** (−2.23)	−0.013*** (−2.75)
<i>age</i>	0.002 (0.18)	−0.007 (−0.97)	−0.001 (−0.13)	0.001 (0.13)	−0.006 (−0.63)
<i>dy</i>	0.167 (0.98)	0.188 (1.37)	0.006 (0.09)	−0.053 (−0.40)	−0.105 (−0.60)
<i>hm</i>	−3.228	−4.162	−1.206	−1.656	−2.980

Table 6
Effect of news clustering and alternative news samplings

A. Regressions without news clustering

	Using all news days <i>Abt</i> at day(s)			Using only consecutive-day news <i>Abt</i> at day(s)		
	[-2, -1]	0	[1, 2]	[-2, -1]	0	[1, 2]
<i>Neg_net</i>	-0.104** (-2.39)	-0.108*** (-3.64)	-0.076* (-1.75)	-0.239*** (-3.41)	-0.163*** (-3.38)	-0.116* (-1.65)
Observations	317,686	327,064	317,491	115,748	117,835	115,308
R^2	.039	.036	.038	.097	.090	.101

B. Single-day versus consecutive-day news clusters

	Single-day news clusters			Consecutive-day news clusters			Using only the initial day of consecutive-day news clusters		
	<i>Abt</i> at day(s)			<i>Abt</i> at day(s)			<i>Abt</i> at day(s)		
	[-2, -1]	0	[1, 2]	[-2, -1]	0	[1, 2]	[-2, -1]	0	[1, 2]
<i>Neg_net</i>	-0.005 (-0.10)	-0.061* (-1.91)	-0.027 (-0.53)	-0.129 (-1.17)	-0.278*** (-3.58)	-0.042 (-0.38)	-0.154 (-1.53)	-0.225*** (-3.12)	-0.208* (-1.95)
Observations	205,694	213,141	205,844	52,216	54,099	52,103	52,216	54,099	52,103
R^2	.041	.041	.041	.093	.103	.093	.114	.125	.120

- Without clustering, it seems institutions predict news tone.
- consecutive-day news has a much larger impact on day 0 *Abt*

C. Using all initial-day news or the very first news in a news cluster

	Using only the initial day of all news clusters			Using only the very first news of all news clusters		
	<i>Abt</i> at day(s)			<i>Abt</i> at day(s)		
	[−2, −1]	0	[1, 2]	[−2, −1]	0	[1, 2]
<i>Neg_net</i>	−0.039 (−0.91)	−0.128*** (−4.12)	−0.069 (−1.56)	−0.023 (−0.57)	−0.053** (−1.98)	0.002 (0.06)
Observations	258,658	268,028	258,706	258,658	268,028	258,706
<i>R</i> ²	.039	.039	.039	.038	.038	.038

D. Alternative news-clustering schemes

	Clustering of consecutive news that are within 3 days apart			Clustering of consecutive news that are within 5 days apart		
	<i>Abt</i> at day(s)			<i>Abt</i> at day(s)		
	[−2, −1]	0	[1, 2]	[−2, −1]	0	[1, 2]
<i>Neg_net</i>	−0.054 (−1.00)	−0.095*** (−2.61)	−0.053 (−1.03)	−0.070 (−1.19)	−0.089** (−2.16)	−0.028 (−0.49)
Observations	204,250	213,615	204,006	169,825	178,573	169,610
<i>R</i> ²	.040	.042	.039	.041	.044	.040

Table 7
Institutional heterogeneity and news trading

A. Known institutional types

	Plan sponsors <i>Abt</i> at day(s)			Mutual funds <i>Abt</i> at day(s)			82 hedge funds <i>Abt</i> at day(s)		
	$[-2, -1]$	0	$[1, 2]$	$[-2, -1]$	0	$[1, 2]$	$[-2, -1]$	0	$[1, 2]$
<i>Neg_net</i>	0.021 (1.01)	−0.032** (−2.26)	0.003 (0.16)	−0.038 (−0.85)	−0.071** (−2.24)	−0.011 (−0.25)	0.392 (0.90)	−0.194 (−0.41)	0.008 (0.02)
Observations	223,426	210,370	223,166	248,829	249,722	248,385	22,936	16,927	22,407
R^2	.095	.090	.096	.040	.040	.038	.110	.136	.123

- The investment horizons of plan sponsors tend to be longer than those of mutual funds

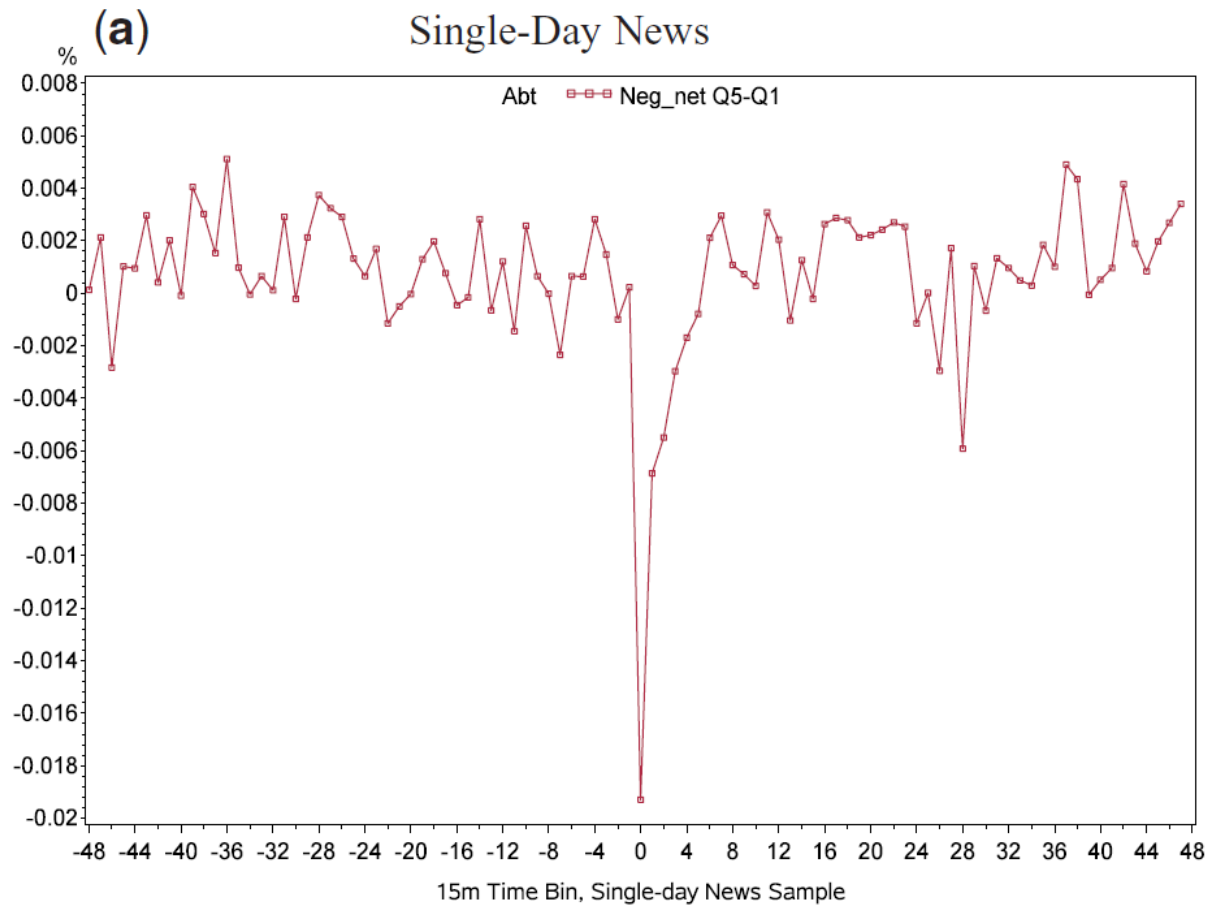
- Speedy reaction to intraday news (uncluster)

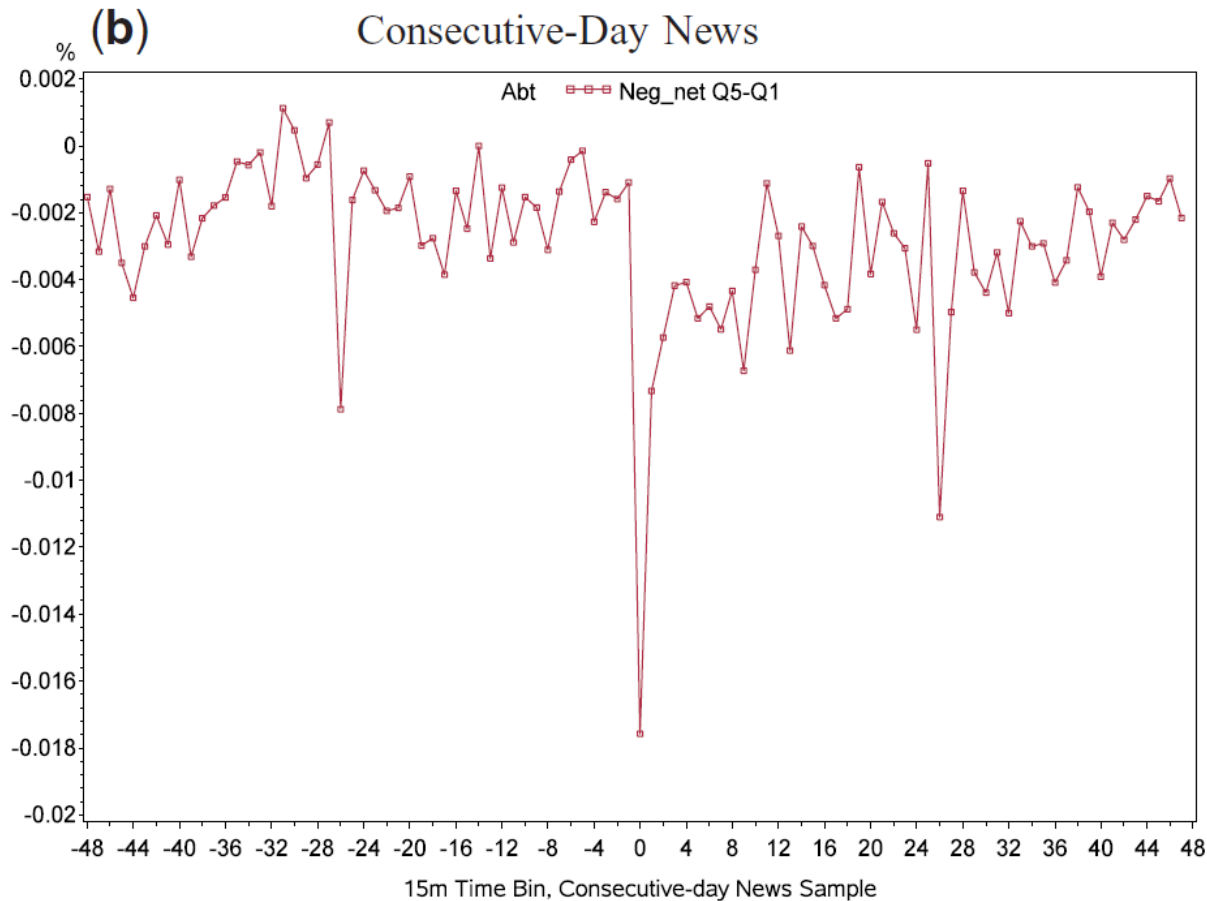
Table 10
Trading 3 hours before and 3 hours after the news announcement

15-min bin	<i>Neg_net</i> quintile					Difference	
	1	2	3	4	5	5–1	<i>t</i> -stat.
–2	0.0006	–0.0027	–0.0036	–0.0032	–0.0022	–0.0048	(–1.50)
–1	–0.0011	–0.0026	–0.0023	–0.0034	–0.0020	–0.0008	(–0.40)
0	–0.0117	–0.0213	–0.0260	–0.0292	–0.0262	–0.0145	(–3.30)
1	–0.0093	–0.0120	–0.0169	–0.0204	–0.0183	–0.009	(–2.05)
2	–0.0028	–0.0038	–0.0043	–0.0086	–0.0061	–0.0033	(–1.14)

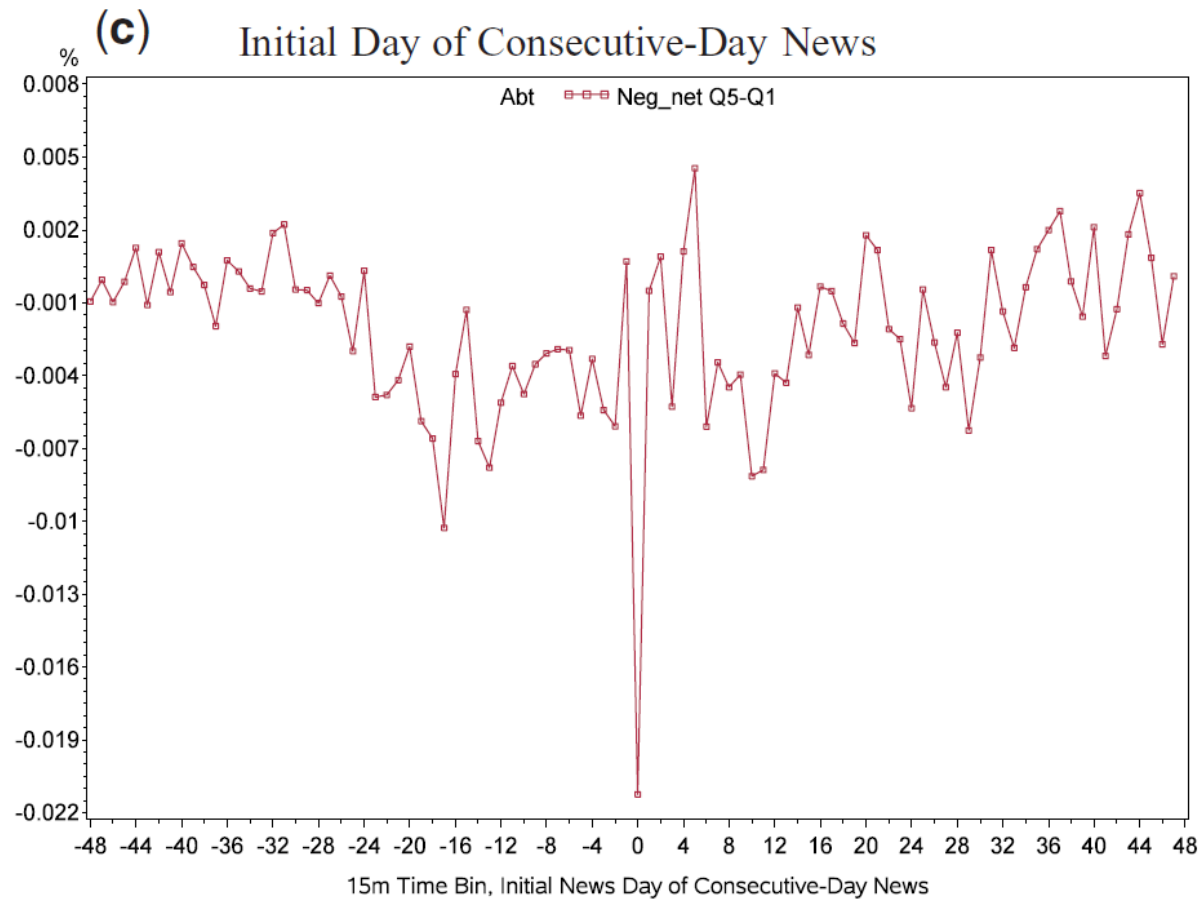
- Institutes react to news speedily, with trading concentrated in the first 30 minutes after the news release

- Twenty-four-hour periodicity





- The majority of news stories take place before- and after-market, as we have documented earlier; hence, if two news articles are 1 day apart, it is most likely that their time distance is 390 (trading) minutes.
- for consecutive-day news events, institutions react to contemporaneous news, but also to 1-day-apart news



- without clustering, consecutive-day news has confounding effects on trading prediction, at a periodicity of 24 hours.

Empirical Results

Table 11
News tone, institutional trading, and return prediction

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DGTW return over							
	[1]	[1, 5]	[1, 10]	[1, 20]	[1]	[1, 5]	[1, 10]	[1, 20]
<i>Neg_net</i>	−2.077*** (−5.19)	−1.344*** (−6.68)	−0.991*** (−5.58)	−0.723*** (−4.91)	−2.081*** (−5.07)	−1.376*** (−6.69)	−1.008*** (−5.59)	−0.738*** (−4.97)
<i>Abt[0]</i>					0.106*** (3.00)	0.042** (2.35)	0.031** (2.04)	0.009 (0.69)
<i>ff4abret[0]</i>	−1.193*** (−4.63)	−0.473*** (−3.80)	−0.397*** (−3.00)	−0.289*** (−3.73)	−1.267*** (−4.88)	−0.487*** (−3.07)	−0.400*** (−3.00)	−0.277*** (−3.57)

- The relation between news tone and returns extends to longer time periods
- Institutional trading predicts returns in addition to news tone for up to 10 days, post news release.
- institutional trading is an important short-term source of institutional returns that directly follows news bulletins.

Empirical Results

Table 12
Impact of news-driven institutional trading on returns

A. Returns of contrarian trades versus reinforcing trades

	DGTW return over							
	[1]	[1, 5]	[1, 10]	[1, 20]	[1]	[1, 5]	[1, 10]	[1, 20]
	Contrarian trades (Q14)				Reinforcing trades (Q23)			
<i>Neg_net</i>	−0.731 (−1.22)	−0.626** (−2.07)	−0.452* (−1.71)	−0.288 (−1.34)	−2.675*** (−4.41)	−1.765*** (−5.68)	−1.304*** (−4.83)	−1.050*** (−4.81)
<i>Abt[0]</i>	0.019 (0.35)	−0.022 (−0.80)	−0.017 (−0.73)	−0.018 (−1.02)	0.141*** (2.63)	0.084*** (3.15)	0.066*** (2.91)	0.020 (1.10)
Observations	125,982	126,015	126,044	126,107	125,451	125,481	125,501	125,582
R^2	.057	.054	.053	.056	.054	.055	.052	.055

- For contrarian trades, *Abt[0]* no longer predicts returns; and for reinforcing trades, *Abt[0]* predicts returns up to 10 days after controlling for the effect of *Neg_net*.

B. Pooling regressions of contrarian and reinforcing trades

	DGTW return over			
	[1]	[1, 5]	[1, 10]	[1, 20]
<i>Q23_dummy</i> × <i>Abt</i> [0]	0.140* (1.90)	0.109*** (2.92)	0.084*** (2.70)	0.038 (1.63)
<i>Q23_dummy</i> × <i>Neg_net</i>	−1.635** (−2.10)	−1.067*** (−2.69)	−0.830** (−2.40)	−0.727** (−2.58)
<i>Neg_net</i>	−1.010* (−1.77)	−0.641** (−2.26)	−0.439* (−1.75)	−0.306 (−1.48)
<i>Q23_dummy</i>	−0.016 (−1.48)	0.000 (0.05)	−0.002 (−0.44)	−0.002 (−0.56)
<i>Abt</i> [0]	0.012 (0.23)	−0.028 (−1.05)	−0.023 (−1.01)	−0.020 (−1.17)
Observations	252,098	252,160	252,209	252,352
R^2	.033	.034	.033	.038

- news-stimulated trading has the more impactful predictive power for future returns.
- The unconditional impact of *Abt*[0] on returns is subsumed by the conditional impact of news-driven trading

→institutional trading and news reinforce each other in driving stock returns in the following weeks

→the reinforcement effect has a more substantive return-predictive power than just news or institutional trading.

Conclusion

- Institutions react speedily to but do not predictively trade on news clusters, whether the clusters consist of single day or consecutive day news.
- News-driven institutional trades result in economically significant abnormal returns