Who Listens to Corporate Conference Calls?
The Effect of "Soft Information" on Institutional Trading

Alan Huang — University of Waterloo
Russ Wermers — University of Maryland

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Why conference calls

- A longstanding issue: how does information become incorporated into stock prices?
  - Grossman-Stiglitz (1980) theory
  - We implicitly use this theory in microstructure studies of the actions of informed traders
  - In studies of active investment management "alpha," this theory is "more casually" used
- Corporate conference calls are a strong candidate for an "important conduit" of information to price discovery
- Reg FD prohibits selective disclosure, increasing the importance of public information venues
  - Tipping paper by Lipson, Puckett, and Irvine (pre-Reg-FD)—some institutions receive pre-analyst upgrade info
- Conference calls are the only venue of public disclosure where direct interaction with management is possible, in large scale.

Why institutional ownership

- Institutions now own 70% of US equity. They process public information for portfolio management.
- Surprisingly, there is no research that directly links IO to conference calls.
  - Research that links text sentiment and conference call sentiment to returns (Tetlock, 2007)
  - Research that links conference call text sentiment to returns and to relationships between analysts and management (Price et al. 2012; Mayew et al. 2019 WP—during the call; Cohen et al., 2020 etc.)
  - Buy and sell side analysts in conference calls (Jung et al. 2018; Call et al., 2021).
- Broadly, IO has strong preference for large firms (Gompers and Metrick 2001) and firms with volatile returns (Falkenstein, 1996). This preference drives stock returns; and the impact is in turn driven by short-term institutions (Yan and Zhang 2009).
- This paper: How do institutions react to information/sentiment contained in conference calls?

Sample

- S&P Global's Capital IQ Transcripts, 2006 to 2018 for stocks listed on NYSE, Nasdaq, and AMEX.
- 176,648 transcripts (with at least 500 words) for 6,103 unique firms, 3,000-4,000 firms each year from 2010, and on average a firm has 4.6 calls per year.
- Different types of calls: earnings (74%), conference presentations (17%), shareholder/analyst calls (3%), etc. Calls usually last for an hour (around 6,000 words).
- All calls are broken into three components: Presentation, Question, and Answer.
- Parse these components with Loughran and MacDonald (2011) financial word dictionary.
  - All stop and forward-looking-statement words removed.

75% of firms hold calls after 2011

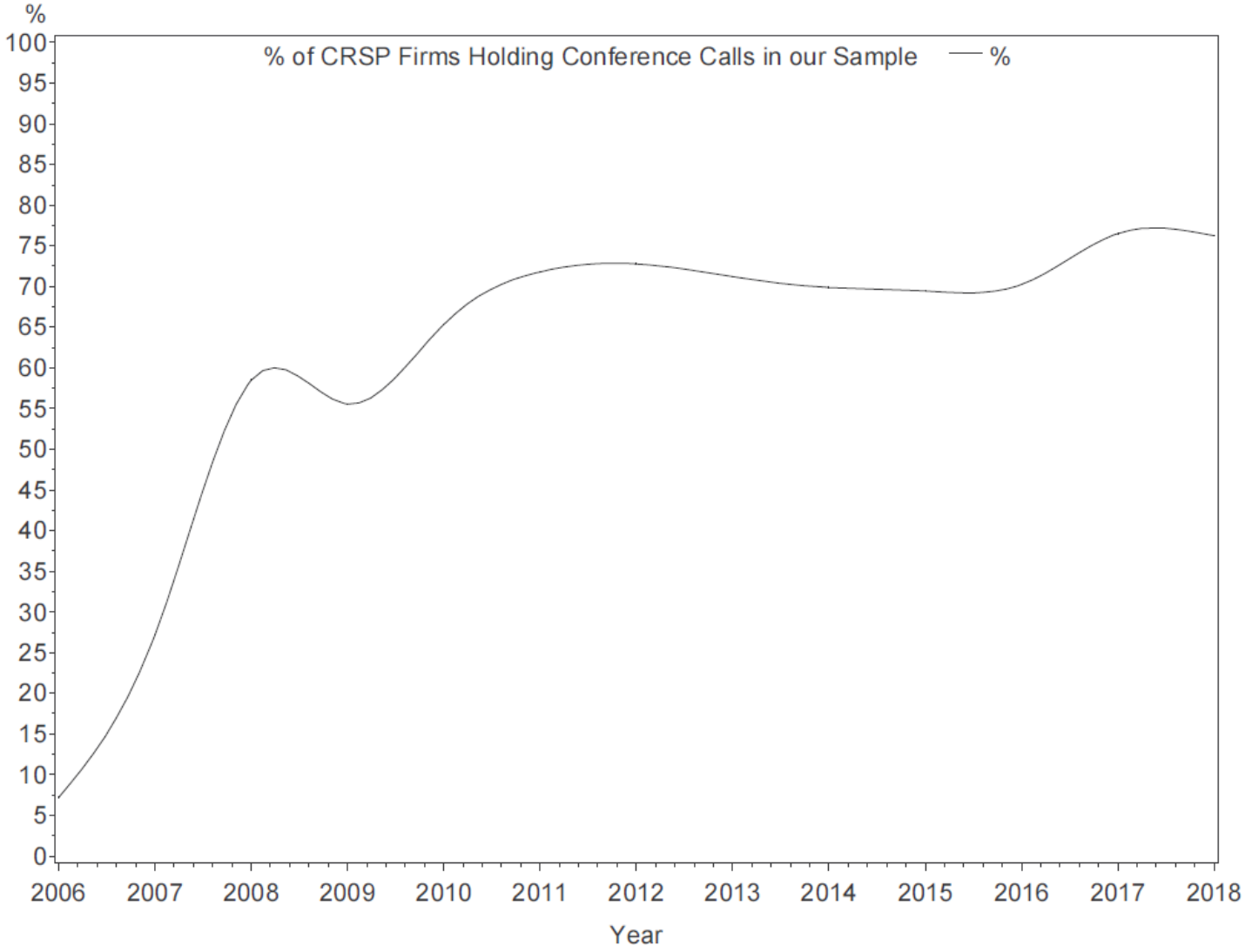


Figure 1: This figure shows the percentage of CRSP stocks holding at least one conference call in a given year in our sample.

Calls are rarely discontinued once started

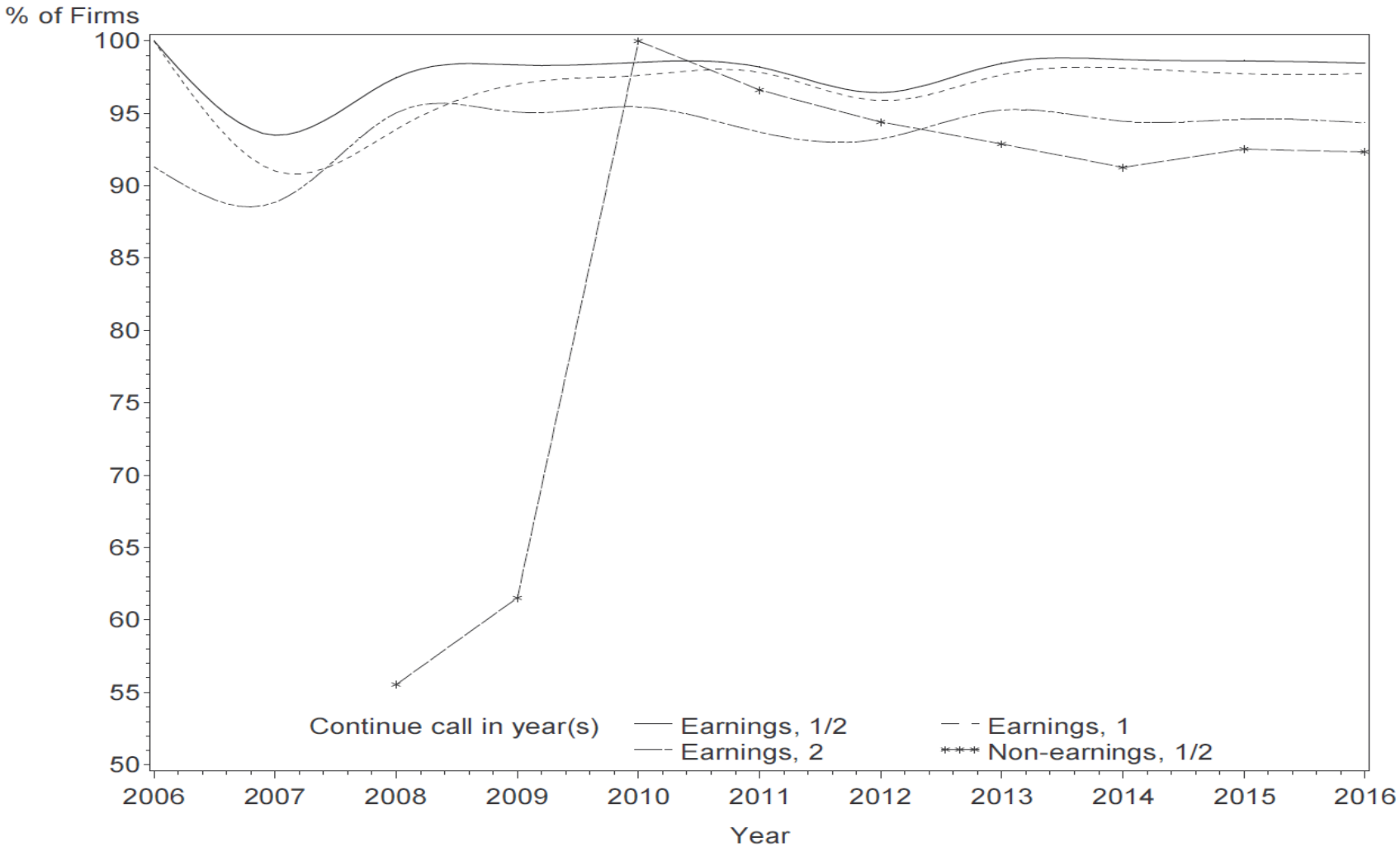


Figure 2: This figure shows the percentage of firms continuing to hold calls in the next year (year "1"), the year after the next (year "2"), or any year in the next two years (year "1/2"), for earnings and non-earnings calls.

Call sentiment

Neg_net = (# of negative words - # of positive words) / total words

(1) Tone is more negative during financial crisis
(2) Twice likely to say positive than negative words
(3) Presentation and answer segments are more positive than questions.

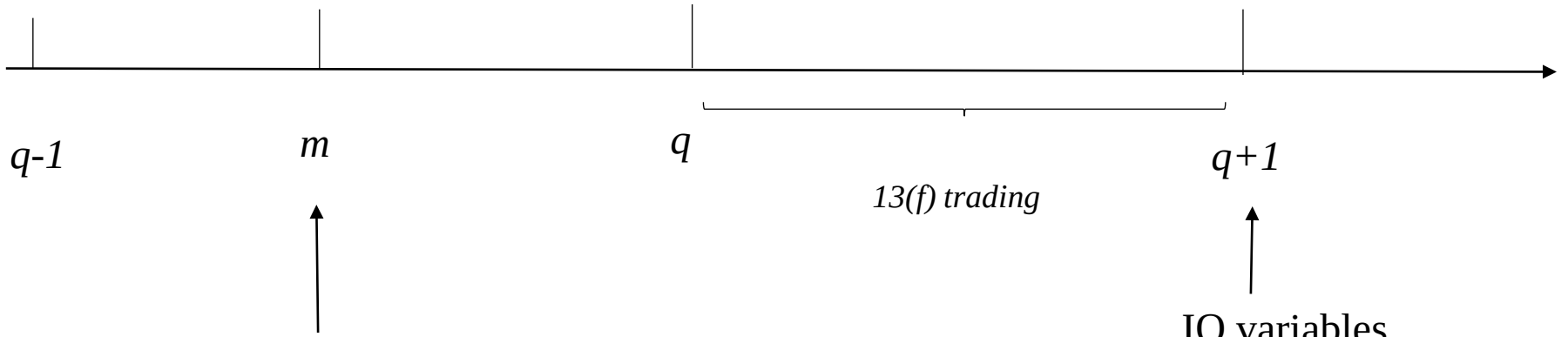
Year	*neg_net*	*neg*	*neg_net_p*	*neg_net_q*	*neg_net_a*
2006	-0.009	0.010	-0.012	0.0000	-0.008
2007	-0.007	0.010	-0.011	0.0026	-0.006
2008	-0.005	0.012	-0.007	0.0022	-0.005
2009	-0.004	0.012	-0.006	0.0022	-0.005
2010	-0.006	0.010	-0.010	0.0013	-0.007
2011	-0.006	0.010	-0.010	0.0010	-0.007
2012	-0.006	0.009	-0.010	0.0017	-0.007
2013	-0.007	0.009	-0.011	0.0006	-0.008
2014	-0.007	0.009	-0.011	0.0003	-0.008
2015	-0.007	0.009	-0.011	0.0005	-0.008
2016	-0.007	0.009	-0.011	0.0003	-0.008
2017	-0.008	0.009	-0.012	-0.0009	-0.008
2018	-0.008	0.008	-0.013	-0.0010	-0.009
Full sample	-0.007	0.010	-0.010	0.0006	-0.007

Main dependent variables

	N	Mean	Std Dev	Minimum	Maximum
IO	153,579	0.65	0.27	0.0009	0.99
NI	153,579	262.82	305.41	2.00	1,655.00
ΔIO	152,902	0.001	0.046	-0.187	0.152
ΔNI	152,902	2.94	18.36	-54.00	72.00

(*Δ*) *IO*: (Quarterly change in) Aggregate 13f institutional ownership.
(*Δ*)*NI*: (Quarterly change in) Number of holding institutions. Log-transformed in regressions.

Timeline



All control variables measured on or before *m*. (97.5% of earnings calls are on the same day or the day after earnings releases.)

Table III

Gompers and Metrick (2001); Yan and Zhang (2009)

	ΔIO	ΔIO	ΔNI	ΔNI
Neg_net	-6.752***	-7.110***	-10.367***	-11.648***
	(-3.32)	(-3.37)	(-9.70)	(-6.82)
SUE	0.019*	0.027	0.071***	0.055***
	(1.82)	(1.60)	(13.06)	(4.99)
Analyst Number	-0.004*	-0.009**	0.002	-0.005
	(-1.71)	(-2.09)	(1.28)	(-1.41)
Size	0.045***	-0.226**	0.097***	-0.220***
	(3.30)	(-2.10)	(13.59)	(-4.46)
Book-to-market	-0.088***	-0.178***	-0.021***	-0.061***
	(-5.56)	(-3.17)	(-4.24)	(-2.90)
Volatility	5.468***	12.116***	3.215***	4.852
	(3.00)	(3.31)	(4.26)	(1.44)
Turnover	-1.945***	-2.763***	-0.591***	-0.972***
	(-17.53)	(-9.43)	(-13.64)	(-5.77)
Price	-0.160***	-0.294**	0.077***	-0.052
	(-7.93)	(-2.37)	(7.25)	(-0.86)
S&P 500	0.229***	0.329**	0.058***	-0.261**
	(6.34)	(2.18)	(2.60)	(-2.61)
$Return_{m-3,m}$	1.496***	1.379***	0.907***	0.864***
	(19.06)	(10.88)	(27.02)	(8.02)
$Return_{m-12,m-4}$	0.795***	0.723***	0.065***	0.040
	(18.90)	(8.41)	(3.39)	(0.66)
Age	-0.227***	-0.714***	-0.129***	-0.178*
	(-14.97)	(-6.71)	(-19.00)	(-1.92)
Dividend Yield	0.175	-1.421	0.745	1.044
	(0.15)	(-0.89)	(1.07)	(1.03)
Constant	1.126***	6.220***	-0.052	3.223***
	(8.38)	(8.57)	(-0.86)	(5.22)
Industry FE	Yes	No	Yes	No
Quarter FE	Yes	Yes	Yes	Yes
Firm FE	No	Yes	No	Yes
Standard error	Robust	Two-way clus.	Robust	Two-way clus.
Observations	130,744	130,356	130,744	130,356
Adj R-squared	0.150	0.183	0.146	0.170

A one-standard deviation change in *Neg_net*, per call, leads incrementally to:

i) -4.2 bps change in ΔIO, which is $4.2 million for a $1bn market-cap firm;

ii) 0.26 fewer institutional investors in the firm.

With 4.6 calls per year, the annualized effect of call sentiment is 19.4 bps in ΔIO.

The effect is stronger in the question section

	ΔIO	ΔNI	ΔIO	ΔNI	ΔIO	ΔNI
Neg_net_p	-3.850**	-5.570***				
	(-2.41)	(-6.76)				
Neg_net_q			-4.670***	-10.548***		
			(-3.08)	(-13.65)		
Neg_net_a					-2.684	-9.035***
					(-1.36)	(-8.84)

Identification by match samples

- How do we know that ΔIO is driven by a conference call that happened up to six months ago?
- Match sample 1
  - Contrast *IO* difference between two firms that (1) are identical in month, 2-digit SIC industry, size & SUE tercile ranks, and (2) owned by the *same* institution, but (3) differ only in whether holding calls.
  - Using only the ownership of the institutions who hold both treatment and control firms to recalculate the IO measures.
- Match sample 2 – identical to match sample 1 but drop condition (2).

Panel A, Table V

Panel A: Match sample based on size, SUE, industry, time and holding institutions

	Diff(*IO*)	Diff(*IO*)	Diff(Δ*IO*)	Diff(Δ*IO*)
Neg_net	-12.246***		-1.444**	
	(-3.39)		(-2.14)	
Neg_net_q		-11.051***		-0.816*
		(-4.20)		(-1.75)
Controls in Table III	Yes	Yes	Yes	Yes
Observations	86,865	83,921	86,865	83,921
Adj R-squared	0.0596	0.0594	0.0506	0.0503

Diff(IO) = *IO*(treat) – *IO*(Control)

Another identification strategy

- Examining quarter-end vs. quarter-beginning calls—effect should be stronger for quarter-end-month calls as they are closer to the next-quarter 13f report period.

	Neg_net on		*Neg_net_p* on		*Neg_net_q* on		*Neg_net_a* on	
	Δ*IO*	Δ*NI*	Δ*IO*	Δ*NI*	Δ*IO*	Δ*NI*	Δ*IO*	Δ*NI*
Sentiment	7.664**	-8.146***	6.506***	-3.945***	0.223	-9.659***	7.175**	-7.504***
	(2.32)	(-4.64)	(2.84)	(-3.14)	(0.09)	(-7.14)	(2.22)	(-4.38)
midqtr	-0.229***	-0.041**	-0.229***	-0.052**	-0.050*	-0.033**	-0.189***	-0.036
	(-5.39)	(-1.98)	(-4.73)	(-2.24)	(-1.74)	(-2.14)	(-4.19)	(-1.62)
qtrend	-0.110**	-0.024	-0.136*	-0.056*	0.011	0.029	-0.058	-0.021
	(-2.04)	(-0.89)	(-1.93)	(-1.68)	(0.32)	(1.55)	(-1.03)	(-0.75)
midqtr × Sentiment	-24.697***	-0.865	-17.174***	-1.742	-11.291***	-0.819	-17.525***	-0.194
	(-5.66)	(-0.39)	(-5.35)	(-1.06)	(-3.29)	(-0.47)	(-4.13)	(-0.09)
qtrend × Sentiment	-16.488***	-8.842***	-19.014***	-6.178***	1.213	-1.670	-8.583*	-6.857**
	(-3.07)	(-3.11)	(-3.95)	(-2.60)	(0.31)	(-0.80)	(-1.67)	(-2.49)

Channels of call sentiment on IO

- Two potential channels:
  - Short-term: Institutions immediately trade on call sentiment, and trading lasts for a period of time.
  - Medium-term:
    1) Institutions continue to trade on call sentiment;
    2) Institutions buy sell-side services. Calls lead to analyst revisions and institutions in turn trade on analyst revisions.
- Both channels would eventually be manifested in stock returns.

Short- and medium-term institutional trading on *Neg_net*

- Using Abel Noser's ANcerno minute-by-minute trading data from 2006 to 2014 (last period when the data is available to us), define *Abt* as a stock's trading imbalance (aggregate buy minus aggregate sell by ANcerno institutions) adjusted by trading imbalance prior to call.

Table X Panel A: Regressions for *Neg_net*

	Abt at trading day(s)						
	[-2, -1]	0	[1, 2]	[3, 5]	[6, 10]	[11, 20]	[21, 30]
Neg_net	0.014	-0.475**	-0.226*	-0.240***	-0.140*	-0.109*	0.021
	(0.14)	(-2.37)	(-1.96)	(-2.62)	(-1.80)	(-1.66)	(0.31)
SUE	-0.000	-0.003**	0.001	0.001***	0.002***	0.002***	0.001
	(-0.47)	(-2.50)	(0.92)	(3.05)	(5.49)	(5.43)	(1.56)
Analyst Number	0.000	0.000	0.000	0.000	0.000	0.000**	0.000
	(0.27)	(1.57)	(1.40)	(0.46)	(0.73)	(2.19)	(1.06)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52,268	51,100	52,910	53,791	54,690	55,500	55,306
Adj R-squared	0.012	0.004	0.003	0.004	0.006	0.008	0.007

Analyst revision

- Negative tone leads to analyst downward revision in recommendation (controlled for SUE) (revision on average takes place 25 days post the call).
- Such call-driven recommendation changes are traded by institutions.

	ΔREC	ΔREC	ΔREC	ΔREC
Neg_net	1.705**			
	(2.52)			
Neg_net_p		0.902		
		(1.64)		
Neg_net_q			1.515***	
			(2.97)	
Neg_net_a				1.462**
				(2.18)

Table XII Panel A: Institutional trading on individual recommendation changes

	Abt at trading day(s)						
	[-2, -1]	0	[1, 2]	[3, 5]	[6, 10]	[11, 20]	[21, 30]
Δ*REC*	-0.001	-0.012***	-0.007***	-0.006***	-0.006***	-0.003***	-0.001
	(-0.37)	(-5.15)	(-5.03)	(-5.12)	(-5.55)	(-4.04)	(-0.87)
Neg_net	-0.314	-0.428	-0.123	0.324	-0.167	0.003	-0.099
	(-0.97)	(-0.81)	(-0.37)	(1.14)	(-0.66)	(0.01)	(-0.45)
SUE	0.001	-0.002	0.002	0.003**	0.003**	0.001	-0.001
	(0.60)	(-0.76)	(1.31)	(2.41)	(2.24)	(0.59)	(-1.10)
Analyst Number	0.000	0.001	0.001**	0.000	0.000	0.000	-0.000
	(0.97)	(1.25)	(2.09)	(0.69)	(0.50)	(0.60)	(-0.39)

Sample: analysts who issue recommendation pre- and post-call.

Returns (Table XIII)

Panel A: Shorter-Term Returns

	DGTW Return over				DGTW Return over			
	[0]	[0]	[0]	[0]	[1, 2]	[1, 2]	[1, 2]	[1, 2]
Neg_net	-1.381***				-0.206***			
	(-41.50)				(-20.33)			
Neg_net_p		-0.983***				-0.147***		
		(-35.37)				(-18.15)		
Neg_net_q			-0.897***				-0.149***	
			(-38.93)				(-20.52)	
Neg_net_a				-1.026***				-0.157***
				(-31.73)				(-16.13)

Panel B: Longer-term returns

	DGTW Return over				DGTW Return over			
	[3, 10]	[3, 10]	[3, 10]	[3, 10]	[11, 30]	[11, 30]	[11, 30]	[11, 30]
Neg_net	-0.001				-0.006***			
	(-0.14)				(-2.63)			
Neg_net_p		0.002				-0.001		
		(0.68)				(-0.79)		
Neg_net_q			-0.006**				-0.004**	
			(-2.02)				(-2.19)	
Neg_net_a				-0.006				-0.007***
				(-1.58)				(-3.26)

Joint reinforcing effect of call and return on institutional trading

- *ReinforceDummy* = 1 if either i) positive *Neg_net* and negative DGTW return over the given range, or ii) negative *Neg_net* and positive DGTW return.

Table XIV Panel A: Shorter-term return-reinforcing tone

	ReinforceDummy measured on return of day(s)			
	[0]	[1, 2]	[0]	[1, 2]
	Dependent variable			
	Δ*IO*	Δ*IO*	Δ*NI*	Δ*NI*
Neg_net	0.427	-1.186	-0.794	-2.427
	(0.14)	(-0.40)	(-0.47)	(-1.50)
ReinforceDummy	0.055	0.045	0.075***	0.095***
	(1.41)	(1.16)	(3.81)	(4.85)
ReinforceDummy × Tone	-6.670*	-4.333	-14.369***	-12.574***
	(-1.65)	(-1.08)	(-6.63)	(-5.84)

Panel B: Longer-term return-reinforcing tone

	ReinforceDummy measured on return of day(s)			
	[3, 10]	[11, 30]	[3, 10]	[11, 30]
	Dependent variable			
	Δ*IO*	Δ*IO*	Δ*NI*	Δ*NI*
Neg_net	-0.035	3.651	-0.574	10.474***
	(-0.01)	(1.26)	(-0.36)	(6.61)
ReinforceDummy	-0.028	-0.000	0.078***	0.181***
	(-0.72)	(-0.00)	(3.97)	(9.26)
ReinforceDummy × Tone	-7.071*	-14.282***	-17.403***	-38.896***
	(-1.76)	(-3.56)	(-8.11)	(-18.17)

Robustness

- Earnings calls only.
  - The effect is stronger for earnings calls relative to non-earnings calls.
- Tone and contemporaneous ΔIO, same conclusion.
  - Reflecting short-term response of institutions to calls.
- Negative tone.
- Alternative definitions of SUE, non-linearity of SUE, and call characteristics.

Conclusion

- Institutional investors significantly trade incrementally to earnings surprise on the tone of calls in their 13f trades and holdings of stocks for a prolonged period through both direct trading and trading on subsequent analyst revisions.
- Institutional trading on calls is more pronounced when the marginal value of information is higher
  - When information is from analysts, in earnings calls, and when the stock exhibits a higher degree of information asymmetry.
- Call and the subsequent stock returns reinforce each other in driving institutional trading.
- Conference calls are an important channel for stock price discovery in the post Reg-FD era.


thank you