TEXTUAL DISCLOSURES AND RETAIL INVESTOR

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What/Why Textual Disclosures

- Value beyond financial statements (Davis et al. 2012; Li 2010)
- Unregulated (Cazier et al. 2019)
- Complex disclosures to hide poor performance (Li 2008)
- Tone management (Huang et al. 2014)
- Market values disclosure quality (Bonsall et al. 2017)
- Capital Market implications – COD (Bonsall et al. 2019)

Market Participants -Institutional (sophisticated) v/s Retail (Unsophisticated)

Evidence of Unsophistication

- Retail – Lower ability to process information (Tan et al. 2014)
- Retail – Influenced by readability more (Lawrence 2013)

Evidence of Sophistication

- Retail – More in number and can differ within them
- Retail – Unique relationships, information by proximity and insights to customer tastes (Kelly and Tetlock 2013; Kelly and Tetlock 2016)
- Retail – No principal-agent problem

RQ: Are retail investors really influenced by tone ?

Prior Studies on Retail Investor Behavior

- Single broker based study (Lawrence 2013)
- Trade size as proxy (Demers et al. 2018)
- Proxy is biased (Kelly and Shue 2013)
- Investors split order size (Loughran 2018)

Our Investor Identification

- Transaction Level data from BSE (2005-2017)- 10th Largest stock exchange
- Classification is available in the data for investor type
- Masked trader-id
- Duration of the dataset, from 2005 to 2017, enables us to analyze the trading behavior of the same trader across stocks over a long period.

Types of Investors Identifiable

- Association of persons - Retail
- Hindu undivided family - Retail
- Individual - Retail
- Non resident Indian - Retail
- sole proprietor - Retail
- Banks - Institutional
- Foreign institutional investors - Institutional
- Indian financial investor - Institutional
- Insurance Company - Institutional
- mutual fund - Institutional
- National pension scheme - Institutional
- Merchant banker - others
- Company - others
- non reg trust - others
- others - others
- Overseas corporate body - others
- partnership firm - others
- personal financial specialist - others
- Portfolio management scheme - others
- Qualified foreign investors - others
- Foreign Venture Capital Fund - others

Summary Statistics

Bombay Stock Exchange- Trade Summary (2005-2011)	
Total trades (millions)	1,190
Number of unique traders (millions)	18.5
Number of unique retail traders (millions)	10.3
Number of unique institutional traders	38,000

Retail traders daily characteristics	(1) Mean	(2) SD	(3) Min	(4) Max
Count of daily trades	437,280	258,699	13,373	1,725,000
Trade value (in million Rupees)	9164	5004	248.1	32020
Trade volume (in millions)	38.36	26.10	633,368	199.1
Unique traders	84,246	44,991	4,302	330,030

Conference Call Disclosure

- Important avenues through which the management communicates significant information to investors (Brown, Call, Clement, and Sharp 2017; Li, Minnis, Nagar, and Rajan 2014; Frankel, Mayew, and Sun 2010)

- “Number of companies hosting earnings calls rises by 40% in five years to FY18” –Economic Times(2018)

- Voluntary in nature

- SEBI mandates the disclosure of conference call transcripts to the public. (2015 Regulation)

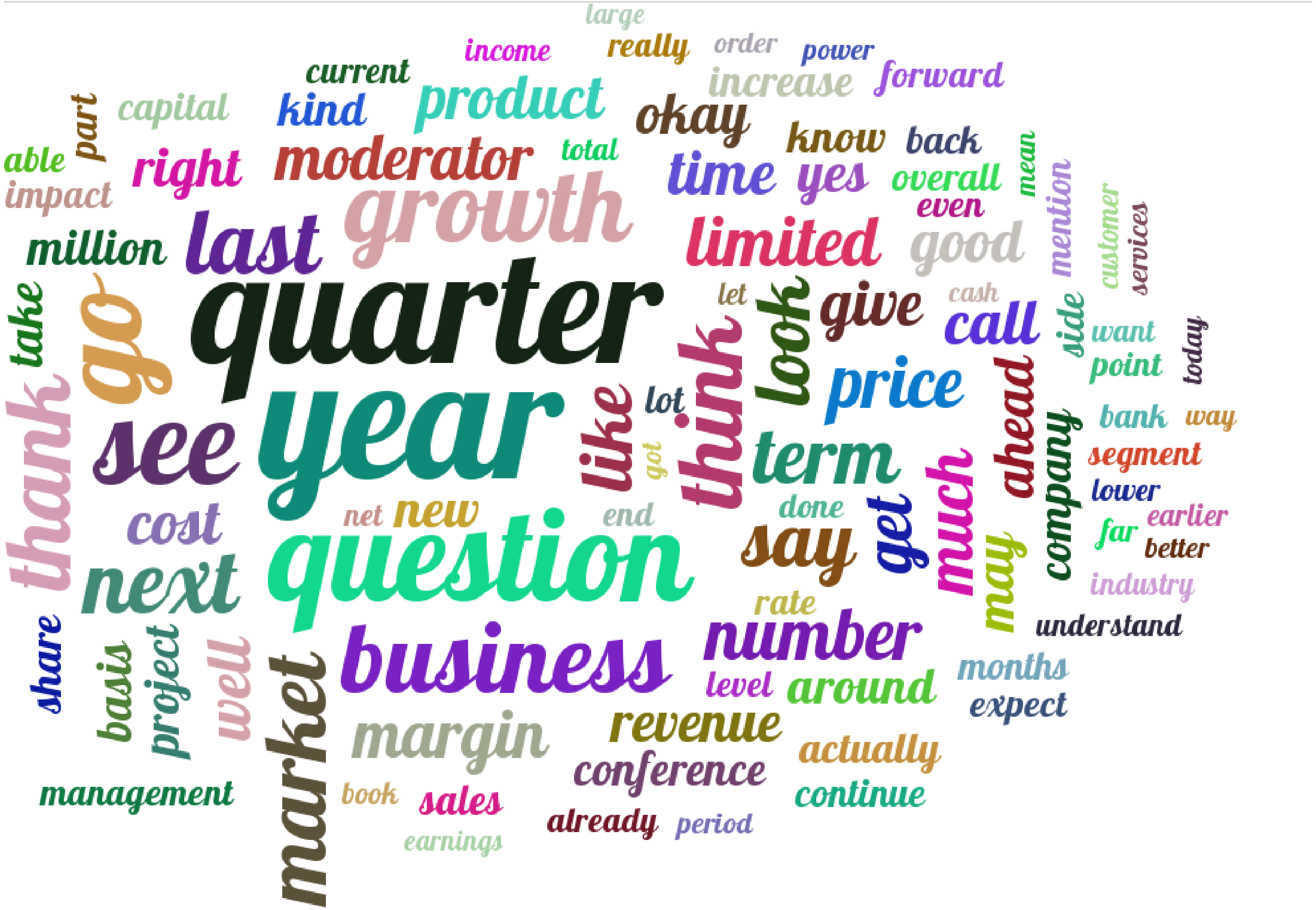
Tone of Conference Call

We parse conference call transcripts by writing Python programs and calculate LENGTH (total number of words) and count the frequency of optimistic and pessimistic words.

We employ a financial dictionary of optimistic and pessimistic words from Loughran and McDonald (2011).

We define TONE as the difference between the count of optimistic words and pessimistic words and scale it by the total number of words in the transcript.

Word Cloud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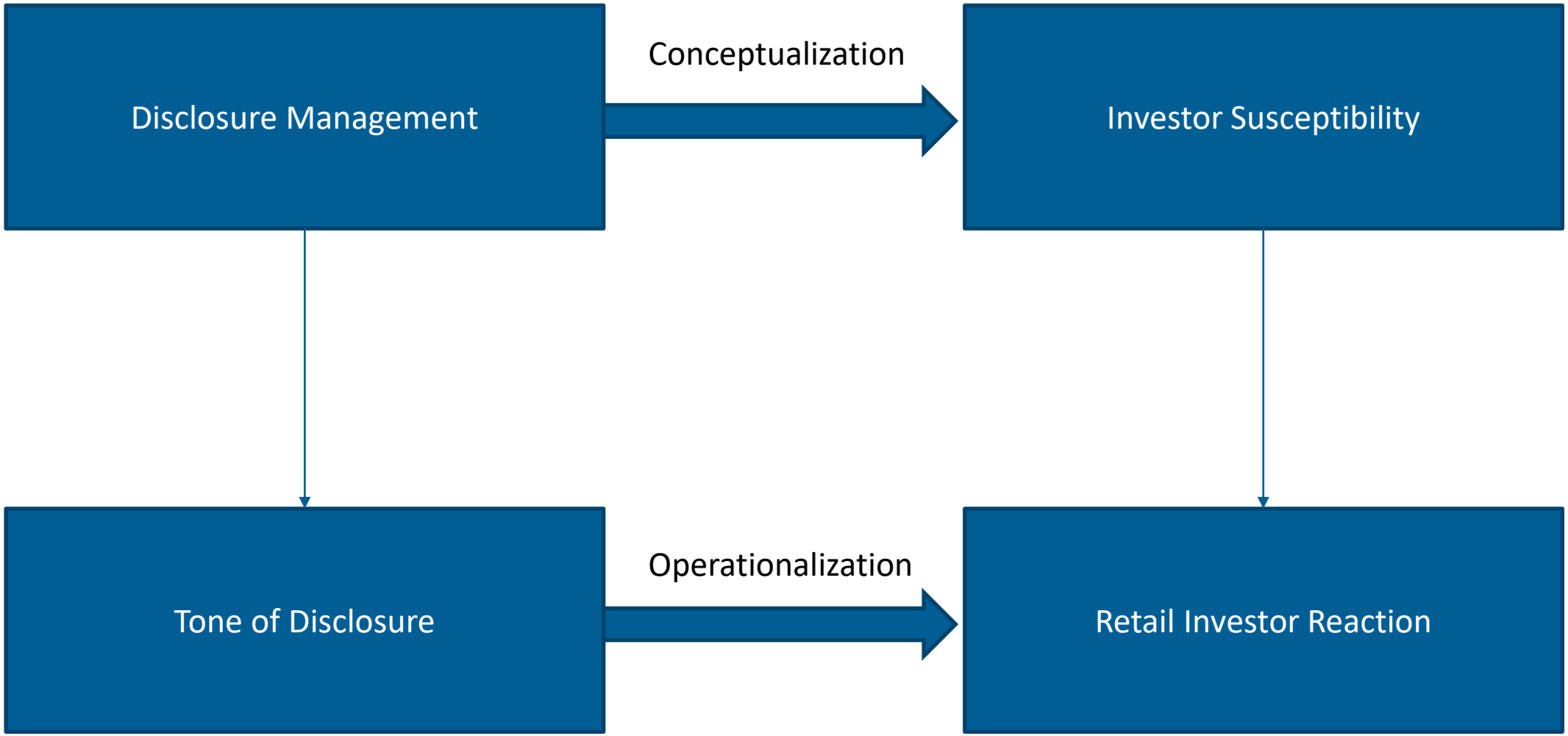
Libby Perspective



Research Questions

1. How do different classes of investors react to textual information?
2. Is there a wealth transfer from retail investors to institutional investors?
3. Do retail investors take into account the credibility of management when interpreting textual information?
4. Do retail investors learn from their mistakes and become careful in buying the stocks of firms with overly optimistic managers when they were misled by the same manager in the past?
5. Which section of the earnings conference call is more useful to retail investors?
6. Are textual disclosures more informative for firms with good corporate governance?
7. Are misleading textual disclosures intentional or unintentional i.e. is there a systematic association between textual disclosures and subsequent insider trading?
8. Are there systematic differences between formal communication (Management Discussion and Analysis) and information communication (Earnings conference calls)? Are retail investors able to understand these differences?
9. Are the results driven by the attention of retail investors?
10. What are the characteristics (e.g. size) of firms where the retail investors are less prone to the framing effect?

Conference Call Data

Hand-collect the transcripts of earnings conference calls from ProwessIQ, Capital IQ, and Researchbyte website.

Filtered by S&P BSE 200 Index from 2005 to 2017.

Accounting data from Prowessdx.

VARIABLES	(1) N	(2) Mean	(3) SD	(4) p25	(5) p75
TOTAL WORDS	3,172	7,441	2,256	6,115	8,529
OPTIMISTIC WORDS	3,172	84.48	38.91	58	105
PESSIMISTIC WORDS	3,172	58.89	27.13	40	72
TONE	3,172	0.0029	0.0048	-0.0003	0.0060
D_ABTONE	3,171	5.485	2.872	3	8
D_NTONE	3,172	5.480	2.873	3	8
SIZE	3,172	11.94	1.347	11.01	12.90
ROA	3,172	0.186	0.144	0.0638	0.255
ΔROA	3,172	-0.0229	0.117	-0.0557	0.0240
STD DEV RETURNS	3,172	0.0205	0.00732	0.0154	0.0238
STD DEV ROA	3,172	7.882	1.277	6.991	8.787
P/B	3,172	4.682	4.877	1.767	5.597
CAR [-1, +1]	3,172	-0.193	5.646	-3.406	3.107
CAR [-1, +5]	3,172	-0.480	7.289	-4.942	3.987
CAR [+6, +250]	2,679	-0.927	34.84	-20.52	20.67

Comparative Statistics

Conference Call Complexity Statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) p25	(5) p75
Fog	3,532	12.31	3.583	3.583	3.583
Flesch Reading	3,532	64.81	10.13	10.13	10.13
Flesch Kincaid	3,532	9.100	3.400	3.400	3.400
Smog	3,532	11.32	1.746	1.746	1.746

MDA Complexity Statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) p25	(5) p75
Fog	4,036	13.74	72.02	72.02	72.02
Flesch Reading	4,036	55.84	185.4	185.4	185.4
Flesch Kincaid	4,036	11.77	70.11	70.11	70.11
Smog	4,036	8.238	10.31	10.31	10.31

Comparative Statistics

Conference Call Tone Characteristics

VARIABLES	(1) N	(2) mean	(3) sd	(4) p25	(5) p75
Total Words	3,864	7,296	2,431	2,431	2,431
Positive Words	3,864	82.56	39.96	39.96	39.96
Negative Words	3,864	57.29	28.04	28.04	28.04
Uncertain Words	3,864	65.83	29.91	29.91	29.91
Tone	3,823	0.295	0.489	0.489	0.489

MDA Tone Characteristics

VARIABLES	(1) N	(2) mean	(3) sd	(4) p25	(5) p75
Total Words	5,746	3,674	6,432	6,432	6,432
Positive Words	5,746	63.75	94.01	94.01	94.01
Negative Words	5,746	44.15	81.95	81.95	81.95
Uncertain Words	5,746	31.52	62.32	62.32	62.32
Tone	3,732	0.520	1.045	1.045	1.045

Paired t test: MDA (sample 1) v/s Conference (sample 2)

	Count	Mean1	Mean2	diff	Std Error	T value	P value
Fog	426	22.997	12.286	10.711	3.594	3	.003
Flesch Reading	426	24.983	65.195	-40.212	9.141	-4.4	0
Flesch Kincaid	426	19.668	9.079	10.589	3.503	3	.003
Smog	426	14.525	11.27	3.255	.404	8.05	0
Tone	784	.691	.311	.38	.028	13.5	0

Constructs Tested

Cumulative Abnormal Returns

$$CAR[-1,+T] = \alpha + \beta_1 * TONE + \beta_2 * ROA + \beta_3 * \Delta ROA + \beta_4 * \frac{P}{B} + \beta_5 * SIZE + \beta_6 * STDDEV\ RETURNS + \beta_7 * STD\ DEV\ ROA + Fixed\ effects + €$$

Tone v/s Abnormal Tone

$$TONE = \alpha + \beta_1 * ROA + \beta_1 * \Delta ROA + \beta_3 * \frac{P}{B} + \beta_4 * SIZE + \beta_5 * STDDEV\ RETURNS + \beta_6 * STD\ DEV\ ROA + €$$

Net Buy

$$NET\ BUY = \alpha + \beta_1 * TONE + \beta_1 * ROA + \beta_3 * \frac{P}{B} + \beta_4 * SIZE + \beta_5 * STDDEV\ RETURNS + Fixed\ effects + €$$

Trading Gain

$$TRADING\ GAIN = \alpha + \beta_1 * TONE + \beta_1 * ROA + \beta_3 * \frac{P}{B} + \beta_4 * SIZE + \beta_5 * STDDEV\ RETURNS + \beta_6 * Prior\ RETURNS + Fixed\ effects + €$$

Measure Details

Net Buy

- (number of shares bought – number of shares sold)/(number of shares bought + number of shares sold)
- (number of shares bought – number of shares sold)/(total shares outstanding)
- (number of buy orders – number of sell orders)/(number of buy orders + number of sell orders)
- (dollar amount of shares bought - dollar amount of shares sold)/(dollar amount of shares bought + dollar amount of shares sold)

Trading Gain

- Net Buy* Change in Price in subsequent holding period

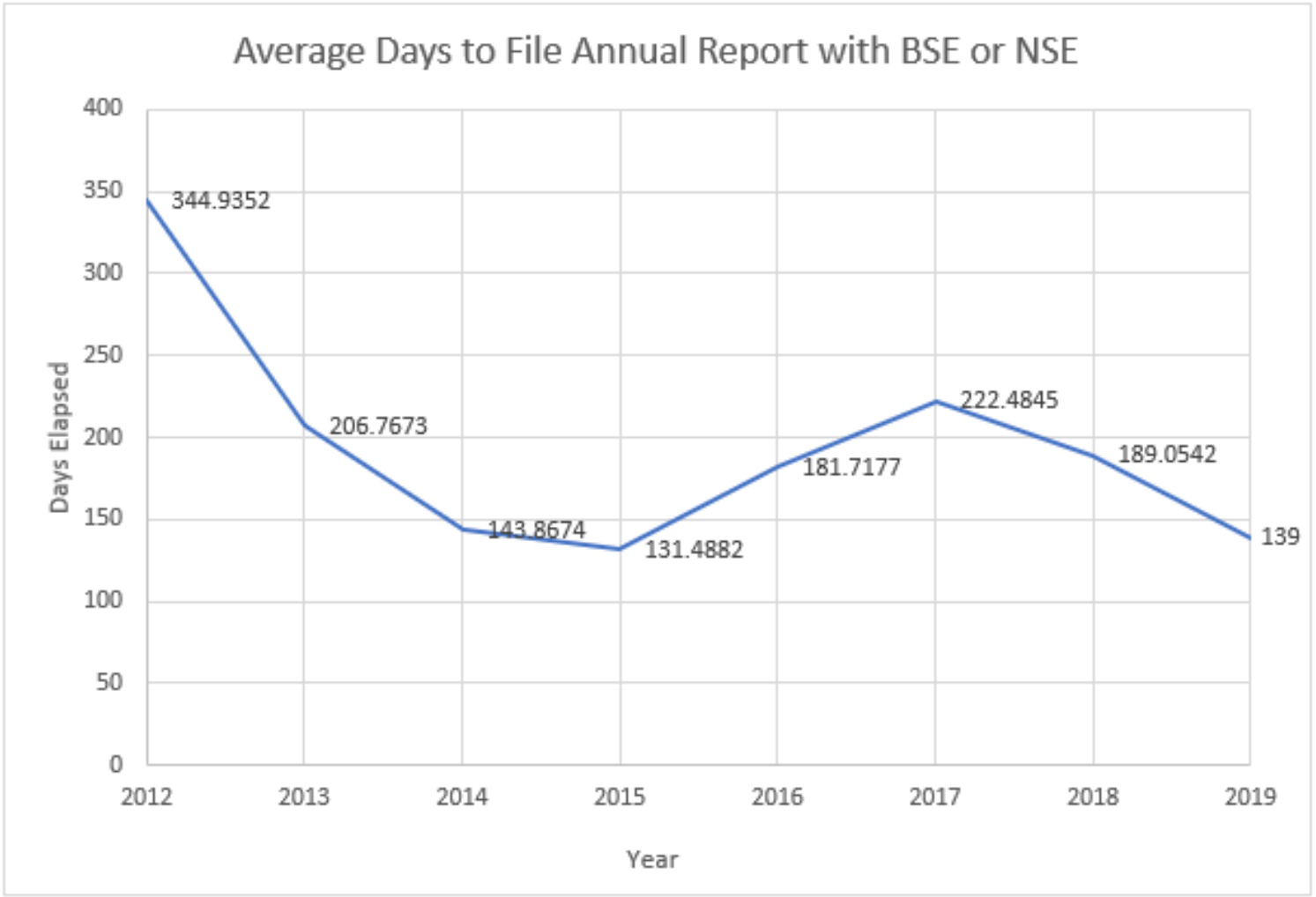
Market Reaction to Tone

	(1) *CAR [-1, +1]*	(2) *CAR [-1, +5]*	(3) *CAR [+6, +250]*
TONE	188.0***	230.6***	-389.4*
	(31.37)	(42.94)	(199.5)
SIZE	0.0350	0.113	-2.833
	(0.229)	(0.270)	(2.108)
P/B	0.00479	-0.0404	-0.535
	(0.0274)	(0.0513)	(0.428)
ROA	1.438	4.189*	58.25***
	(1.798)	(2.379)	(11.75)
ΔROA	0.422	-0.329	-25.56***
	(1.022)	(0.979)	(7.696)
STD DEV ROA	-0.293	-0.241	-1.165
	(0.175)	(0.236)	(1.255)
STD DEV RETURNS	-12.78	24.82	106.4
	(28.19)	(33.97)	(178.4)
INTERCEPT	1.117	-1.689	32.06
	(2.248)	(2.242)	(21.83)
Observations	3,172	3,172	2,677
R-squared	0.045	0.042	0.126
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes

Market Reaction to Normal v/s Abnormal Tone

	(1) *CAR [-1, +1]*	(2) *CAR [-1, +5]*	(3) *CAR [+6, +250]*
D_ABTONE	0.255*** (0.0486)	0.306*** (0.0671)	-0.581** (0.282)
D_NTONE	-0.0638 (0.0748)	-0.111 (0.144)	1.672** (0.817)
SIZE	0.226 (0.299)	0.394 (0.356)	-5.485** (2.342)
P/B	0.0133 (0.0257)	-0.0270 (0.0530)	-0.715 (0.487)
ROA	1.447 (1.808)	4.254* (2.368)	56.10*** (11.45)
ΔROA	-0.0468 (0.989)	-1.033 (1.103)	-18.13** (7.676)
STD DEV ROA	-0.567** (0.280)	-0.648 (0.397)	2.848 (2.038)
STD DEV RETURNS	-24.12 (26.87)	8.404 (35.56)	241.7 (192.2)
INTERCEPT	0.681 (2.070)	-1.979 (2.371)	23.57 (22.36)
Observations	3,171	3,171	2,676
R-squared	0.043	0.040	0.128
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes

Analysis by Filing Day (MD&A)



Contribution

- Evidence on the secondary market consequences of these disclosures and improve our understanding of reaction to textual disclosures by different classes of investors. Furthermore, we resolve the trader's classification issue in the prior literature (Baginski, Demers, Kausar, and Yu 2018) by employing rich transaction-level data from the Bombay Stock Exchange (BSE).

- Evidence if retail investors consider the credibility of managers when trading and learn from their past trading activities. The novel and rich transaction-level data also allows us to examine the trading behavior of the same trader across stocks over the long horizon and how they interpret textual disclosures which are a noisy signal about firm fundamentals.

THANK YOU