Earnings announcement promotions: A Yahoo Finance field experiment

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Research Question

whether random increases in investor attention, through promotion of firm-specific earnings announcement news on the front page of Yahoo Finance, result in increases in abnormal returns and volumes, decreases in bid-ask spreads, as well as increases in the information acquisition of financial data by users subject to the promotion

Outline

Motivation

- How voluntary disclosure **via social media** could shape individual behavior.
- kind of like the first field study that do experimental on a large sample(field research) to examine the media in earning announcement and people attention mechanism
- the experiment and the data they got are, to be honest, so unique.

Outline

Experimental Setting at a glance

- From May 12 to July 28, 2016 Yahoo Finance promoted news articles for a randomly selected set of firms with earnings announcements occurring on each trading day, or which occurred after the market close on the previous trading day, to a one percent subsample of Yahoo Finance users.
- In order to have a balanced panel of treatment and control firms, up to five earnings announcements were randomly selected from among those scheduled to be released each trading day, or after the close on the previous trading day

Experimental Setting at a glance

Table 1
Firm characteristics between treatment and matched control firms.

	Panel A: Mean Comparisons				Panel B: Median Comparisons			
	Treatment Mean	Control Mean	Diff.	Sig.	Treatment Median	Control Median	Diff.	Sig.
N	169	169			169	169		
Market Capitalization (in millions)	14,099	15,304	−1,206	0.747	1,946	2,224	−278	0.447
Log Market Capitalization	21.376	21.535	−0.159	0.505	21.389	21.523	−0.133	0.447
Analyst Following	11.763	12.657	−0.893	0.403	10.000	10.000	0.000	0.530
Log Analyst Following	2.225	2.287	−0.061	0.522	2.398	2.398	0.000	0.530
Media Count	7.118	7.231	−0.112	0.853	6.000	6.000	0.000	0.994
Log Media Count	1.885	1.849	0.037	0.646	1.946	1.946	0.000	0.995
Return on Assets	0.026	0.004	0.022	0.109	0.039	0.029	0.010	0.357
Market to Book	3.437	3.863	−0.426	0.379	2.284	2.350	−0.065	0.585
Earnings Surprise	0.000	−0.001	0.001	0.691	0.000	0.000	0.000	0.572
Sales Surprise	−0.337	−0.684	0.346	0.678	0.134	0.052	0.082	0.559
Guidance Issuance	0.467	0.485	−0.018	0.745	0.000	0.000	0.000	0.745

Figure: Frims stats

Regression analysis

$$y_{i,t} = \alpha + \beta_1 \text{treatment}_{i,t} + \beta_2 \text{treatment}_{i,t} \times \text{earnings surprise}_{i,t}$$

+ $\beta \text{controls}_{i,t} + \varepsilon_{i,t}$(1)

- Treatment:dummy variable equal to 1 for firms that are randomly selected for promotion on Yahoo Finances
- $y_{i,t}$: total page views, abnormal volume, abnormal returns, and abnormal bid-ask spread for firm i on day t.
- We use total page views and not abnormal page views for the treatment group

DID

$$y_{i,t} = \alpha + \beta_1 \text{treatment}_{i,t} + \beta_2 \text{post}_{i,t} + \beta_3 \text{treatment}_{i,t} \times \text{post}_{i,t}$$

$+ \beta \text{controls}_{i,t} + \varepsilon_{i,t}$(2)

- $y_{i,t}$: total page views, abnormal volume, abnormal returns, and abnormal bid-ask spread for firm i on day t.
- There are two observations per firm, one for the day prior to the earnings announcement (t = 1) where post is a dummy variable equal to 0, and one for the day of the earnings announcement (t = 0), where post equals 1

Result-I

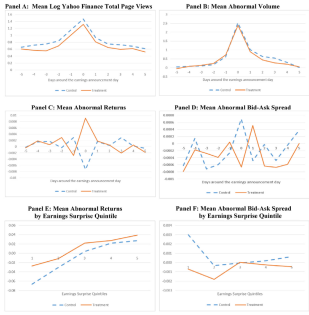

Figure: Frims stats

Result-II

Table 4
Regressions of Yahoo Finance search, abnormal volume, abnormal returns, and abnormal bid-ask spread for Treatment and Matched Control Firms.

Dep. Var.	(1) Log Total Page Views		(2) Abnormal Volume		(3) Abnormal Returns		(4) Abnormal Bid-Ask Spread	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept	−9.024***	−11.84	4.054**	2.28	0.001	0.14	−0.002	−0.34
Treatment	**−0.048**	**−0.48**	**−0.150**	**−0.66**	**0.015****	**2.29**	**−0.001**	**−1.46**
Earnings Surprise	−8.891**	−2.14	−16.905	−1.03	2.352***	5.58	−0.134	−1.16
Treatment × Earnings Surprise	**11.802**	**1.61**	**17.517**	**1.00**	**−1.477***	**−1.85**	**0.173**	**1.26**
Log Market Capitalization	0.452***	11.13	−0.123	−1.39			0.000	0.47
Log Media Count	0.259***	2.70	0.038	0.18			−0.000	−0.88
Return on Assets	−2.519***	−5.30	0.657	0.56			−0.002	−0.31
Market to Book	−0.001	−0.11	−0.021	−0.86			−0.000	−0.15
Guidance Issuance	−0.142	−1.17	1.083***	3.68			−0.001	−0.81
Date clustering	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	
N	338		338		338		338	
Adjusted R^2	0.485		0.163		0.112		0.034	

Figure: Frims stats

Result-III

Table 5
Regressions of Yahoo Finance search, abnormal volume, abnormal returns, and abnormal bid-ask spread for earnings announcement day relative to the day before between treatment and matched control firms.

Dep. Var.	(1) Log Total Page Views		(2) Abnormal Volume		(3) Abnormal Returns		(4) Abnormal Bid-Ask Spread	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept	−8.133***	−14.70	1.951**	2.06	0.007	1.24	−0.008	−1.39
Treatment	−0.026	−0.28	0.075	0.79	−0.006**	−2.38	0.000	0.84
Post	0.190	1.36	1.350***	5.88	−0.009*	−1.74	0.002	1.42
Treatment × Post	**−0.043**	**−0.30**	**−0.242**	**−0.90**	**0.021*** **	**2.96**	**−0.002**	**−1.50**
Earnings Surprise	0.833	0.33	−5.595	−0.79	1.086***	4.06	−0.006	−0.16
Log Market Capitalization	0.400***	15.53	−0.086*	−1.95			0.000	1.39
Log Media Count	0.316***	6.46	0.102	1.36			−0.000	−1.68
Return on Assets	−2.090***	−7.26	1.117*	1.68			−0.007	−1.35
Market to Book	0.000	0.02	−0.008	−0.65			−0.000	−0.45
Guidance Issuance	−0.055	−0.46	1.098***	4.31			−0.001	−0.98
Date clustering	Yes		Yes		Yes		Yes	
N	666		666		666		666	
Adjusted R^2	0.491		0.287		0.068		0.012	

Figure: Frims stats

Outline

Conclusion

Our findings reinforce the powerful and important role of online media, and how it can significantly shape individual behavior (e.g., Wu, 2016).

The study provides evidence that the market pricing of earnings not only depends on the earnings news but also on the extent of investor attention, and that investor attention may be a key mechanism driving the earnings announcement premium.

References I