

The impact of social media influencers on the financial market performance of firms

Kevin Keasey¹ Costas Lambrinoudakis¹ Danilo V. Mascia¹ Zhengfa Zhang²

¹International Banking Institute, University of Leeds

²Centre for Advanced Studies in Finance (CASIF), University of Leeds

Motivation

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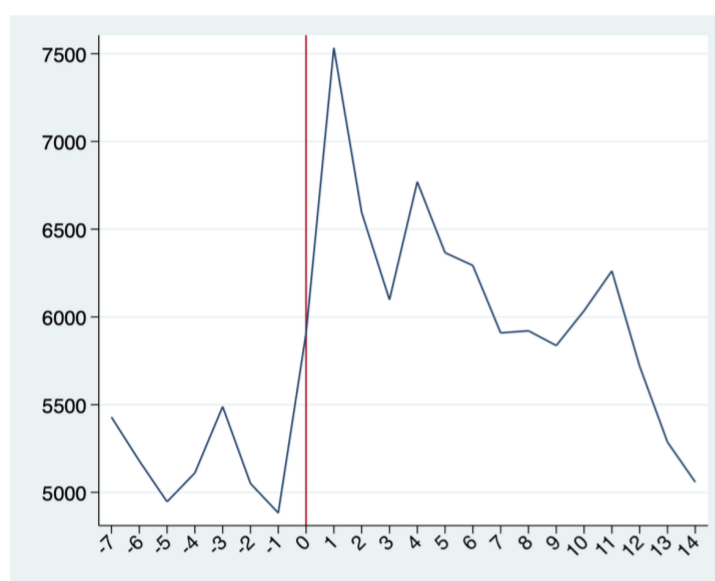
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Snap falls after Rihanna expresses outrage over advert

Stock on track for the biggest one-day drop this month



Now SNAPCHAT I know you already know you ain't my fav app out there! [...] You spent money to animate something that would intentionally bring shame to DV (domestic violence) victims and made a joke of it! . . . Shame on you. Throw the whole app-ology away.



Snapchat Wikipedia page views around Rihanna's criticism. This figure illustrates the 3-week period of daily Wikipedia page views of the Snapchat firm from March 8, 2018 (7 days before posting) to March 29, 2018 (14 days after posting). Day 0 is March 15, 2018, which is the day that Rihanna posted the criticism content on Snapchat.

Introduction and Literature Review

This study leverages a dataset of 16 million Instagram posts to examine how influencer sentiment and engagement affect financial markets. Findings reveal that while influencers significantly drive investor attention and trading dynamics, only top influencers with extreme sentiment shifts influence stock returns. This research bridges finance and marketing, integrating noise trader theory and social media analytics.

- **Role of Social Media Influencers as Opinion Leaders:** Social media influencers reinterpret information as opinion leaders, significantly shaping followers' perspectives through the two-step flow model in the digital age (Bergström and Belfrage, 2018; Choi, 2014).
- **Behavioral Finance:** Behavioral finance highlights how investor sentiment, driven by psychological biases, influences market behavior. This perspective challenges the notion of purely rational decision-making in financial markets (Hirshleifer, 2015; DeLong et al., 1990; Shleifer and Vishny, 1997).
- **Investor Sentiment:** Investor sentiment typically has short-lived impacts, affecting short-term anomalies rather than long-term trends. The sensitivity to investor sentiment varies across firms, emphasizing its diverse effects on financial markets (Brown and Cliff, 2005; Stambaugh et al., 2012; Baker and Wurgler, 2006; Hirshleifer et al., 2020).

Contributions

- **Managerial Guidance:** This paper provides actionable insights for firms on managing influencer-driven financial risks using social media analytics.
- **Investor Attention:** The empirical results highlight the critical role of influencers in capturing both retail and institutional investor attention.
- **Financial Market Dynamics:** The findings advance understanding of influencers' effects on trading activity and asset prices.

Data and Methodology

- **Unique Dataset by Web-Scraping:** A large dataset of 16 million posts from the top 5,000 influencers on Instagram
- **Taylor-made Dictionary for Social Media:** The VADER (Hutton and Gilbert, 2014) is an open-source lexicon designed for social media, providing standardized sentiment scores (-1 to 1). It analyzes sentiment in emojis, slangs, punctuation, and capitalization, distinguishing like "The food here is GREAT!!!" vs. "The food here is great."
- **Manually Linked Hashtags:** Fuzzy-matched the firms' subsidiaries and the hashtags online and manually cleaned the ambiguous ones.

Main Findings

- **Investor's Attention:** Mega influencers on social media significantly capture investor attention, as shown by the positive association between their post impact power and increased investor interest.
- **Short-term Financial Market:** Mega influencers' posts are linked to higher trading volume and market volatility, demonstrating their influence on financial market dynamics.
- **Top Influencers and Extreme Events:** Top influencers can affect firm returns, but this impact is generally limited to instances where their posts exhibit extreme sentiment, with these effects being notably short-lived.

	Attention Grabbing			
	Wikipedia _{t+1}		Bloomberg News Heat _{t+7}	
Log of Comments _t	0.020** (2.15)	0.006** (2.28)		
Log of Abnormal Comments _t			0.023*** (3.02)	0.015** (2.60)
Abnormal Sentiment _t	-0.007 (-0.48)	-0.004 (-0.52)	-0.001 (-0.10)	-0.004 (-0.52)
Posting Frequency _t	0.047*** (3.11)	0.007* (1.86)	-0.000 (-0.04)	0.007* (1.86)
Financial Controls		Yes		Yes
Lag Dependent Variables		Yes		Yes
Firm FEs	Yes	Yes	Yes	Yes
Week FEs	Yes	Yes	Yes	Yes
Day-of-week FEs	Yes	Yes	Yes	Yes

	Short-term Stock Market Reactions				
	Daily Volatility (%) _{t+1}		Log Dollar Trading Volume _{t+1}		Abnormal Returns _{t+1}
Log of Comments _t	0.051*** (4.73)	0.016*** (4.01)	0.031*** (4.70)	0.004*** (3.57)	0.002 (0.61)
Abnormal Sentiment _t	-0.002 (-0.10)	-0.008 (-0.60)	-0.004 (-0.47)	0.000 (0.05)	0.022 (1.33)
Posting Frequency _t	0.082*** (4.14)	0.026*** (4.71)	0.049*** (3.48)	0.003* (1.77)	0.001 (0.15)
Financial Controls		Yes		Yes	Yes
Lag Dependent Variables		Yes		Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes	Yes
Week FEs	Yes	Yes	Yes	Yes	Yes
Day-of-week FEs	Yes	Yes	Yes	Yes	Yes

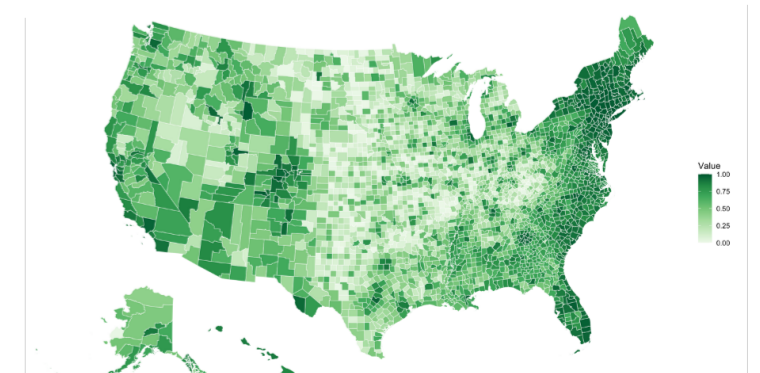
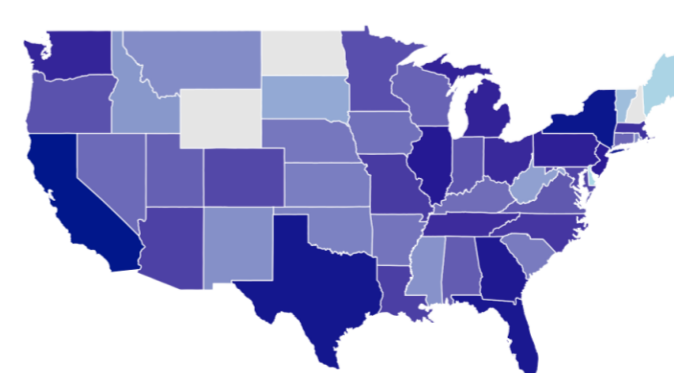
	The Effect of Posts by Top Influencers with Extreme Sentiment Changes on Abnormal Returns			
	Abnormal Returns _{t+1}			
Log of Comments _t	0.002 (0.01)			-0.024 (-0.15)
Abnormal Sentiment _t		0.363** (2.45)		0.402*** (2.87)
Posting Frequency _t			-0.126 (-1.32)	-0.126 (-1.22)
Financial Controls	Yes	Yes	Yes	Yes
Lag Dependent Variables	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Week FEs	Yes	Yes	Yes	Yes
Day-of-week FEs	Yes	Yes	Yes	Yes

	Portfolio Performance						
	Abnormal Return Adjusted by Fama-French-Carhart Four-Factor Model						
	t+1	[t+1, t+2]	[t+1, t+3]	[t+1, t+4]	[t+1, t+5]	[t+1, t+6]	[t+1, t+7]
Panel A: Value-Weighted Portfolios							
Alpha (%)	0.246*** (2.76)	0.096* (1.67)	0.057 (1.06)	0.082 (1.60)	0.038 (0.77)	0.060 (1.26)	0.071 (1.54)
Panel B: Value-Weighted Portfolios							
Alpha (%)	0.246*** (2.76)	0.096* (1.67)	0.057 (1.06)	0.082 (1.60)	0.038 (0.77)	0.060 (1.26)	0.071 (1.54)

Conclusions

This paper finds the significant influence of social media influencers on investor behavior and market dynamics. By utilizing a novel dataset and advanced analytical techniques, it reveals the ways in which influencers drive investor attention, trading volume, and volatility, while highlighting the conditions under which their sentiment impacts stock returns. These findings offer valuable insights for both academics and practitioners in understanding the interplay between digital platforms and financial markets.

The Next Paper: Social Connectedness of Influencers and Firms



The next paper will explore the mechanisms through which firms collaborate with online influencers, focusing on the effects of local bias, social connectedness, and influencer characteristics on investor attention and financial market performance. This analysis incorporates the location of influencers (top-left) and the Social Connectedness Index by Meta (top-right), leveraging an innovative dataset of top US-based influencers.