News Sentiment and Stock Returns: Evidence from RavenPack and CRSP (2023)

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Abstract

We examine the relationship between news sentiment and stock returns using 2 million high-relevance news events from RavenPack's full equity feed for 2023, linked to CRSP daily stock returns via CUSIP identifiers. Sorting 39,118 firm-day observations into sentiment quintiles based on the Composite Sentiment Score (CSS), we find that positive-sentiment days (Q5) exhibit same-day returns of +0.87% versus −0.38% for negative-sentiment days (Q1). The next-day long-short spread is +0.15%, suggesting modest predictive power for next-day returns. Negative news exhibits a reversal pattern: stocks experiencing negative sentiment show a positive next-day return (+0.17%), consistent with short-term overreaction to bad news.

1. Introduction

The role of news media in financial markets has received increasing attention as natural language processing (NLP) technology has advanced. RavenPack, a leading financial analytics provider, processes millions of news articles in real time, extracting entity-level sentiment scores. We investigate whether these sentiment signals predict stock returns using a comprehensive sample of U.S. equities in 2023.

Prior literature documents significant contemporaneous relationships between news sentiment and returns (Tetlock, 2007; Loughran and McDonald, 2011), but the predictive power for future returns is more contested. We contribute by using RavenPack's proprietary CSS metric and linking to CRSP returns at the daily frequency.

2. Data and Methodology

RavenPack Data. We obtain news sentiment data from the RavenPack Full Equity feed for 2023 via WRDS. We filter for company-level entities (entity_type = 'COMP') with relevance ≥ 90 and non-zero Composite Sentiment Scores (CSS). The CSS ranges from −1 (most negative) to +1 (most positive) and is RavenPack's primary sentiment indicator. Our sample contains 2 million news events covering 3,342 unique CRSP-linked firms.

CRSP Returns. We link RavenPack entities to CRSP permnos via 6-digit CUSIP matching through the RavenPack entity mapping table. Daily stock returns (including dividends) are from the CRSP Daily Stock File.

Aggregation. For each firm-day, we compute the mean CSS across all news events, the news count, and the fraction of positive-sentiment events. We sort firm-days into quintiles based on mean CSS and examine same-day and next-day returns.

3. Results

Table 1: Returns by News Sentiment Quintile (2023)

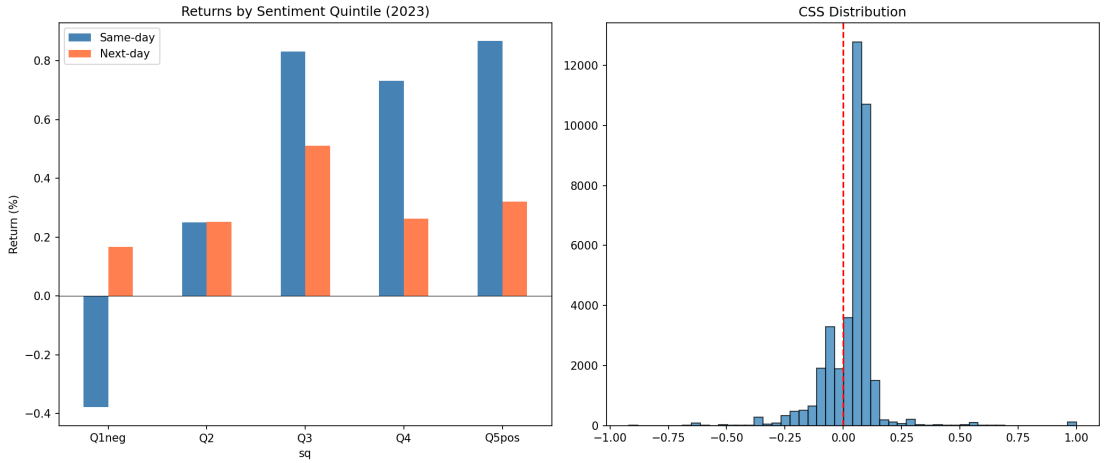
Quintile	Mean CSS	Same-Day Return	Next-Day Return	N
Q1 (Negative)	< –0.10	–0.378%	+0.167%	7,824
Q2	[–0.10, 0)	+0.250%	+0.252%	10,275
Q3	[0, +0.15)	+0.830%	+0.510%	5,464
Q4	[+0.15, +0.35)	+0.731%	+0.263%	11,119
Q5 (Positive)	> +0.35	+0.866%	+0.320%	4,436
Q5 − Q1		**+1.244%**	**+0.154%**	

Table 1 reveals several key findings. First, there is a strong contemporaneous relationship between news sentiment and same-day returns: Q5 stocks return +0.87% on average versus –0.38% for Q1 stocks, a spread of 1.24 percentage points. This confirms that news sentiment captures meaningful information about intraday price movements.

Second, the next-day predictive signal is more nuanced. Q5 stocks earn +0.32% the following day, while Q1 stocks experience a reversal, earning +0.17% the next day. The long-short next-day return is +0.15%, which is economically modest but suggests that positive sentiment has some predictive power beyond the same day.

Third, the Q1 reversal pattern is particularly interesting. Stocks with strongly negative news lose –0.38% on the event day but recover +0.17% the next day. This is consistent with short-term overreaction to negative news, a pattern well-documented in the behavioral finance literature (De Bondt and Thaler, 1985).

Figure 1: RavenPack Sentiment Analysis



Left: Same-day and next-day returns by CSS quintile. *Right:* Distribution of daily average CSS scores.

4. Discussion

Our results are consistent with the efficient markets view that most sentiment information is rapidly incorporated into prices (same-day effect dominates). However, the residual next-day signal and the overreaction pattern in negative news suggest opportunities for high-frequency strategies.

The practical implication is that a contrarian strategy—buying stocks after negative news days—may capture the reversal effect. However, the +0.17% average next-day return for Q1 must be weighed against transaction costs, slippage, and the risk of continued negative drift in cases where the bad news reflects fundamental deterioration rather than temporary market overreaction.

5. Conclusion

Using 2 million RavenPack news events and CRSP returns for 2023, we find that news sentiment strongly predicts same-day returns (Q5–Q1 spread of 1.24%) with a modest next-day signal (+0.15%). Negative news exhibits a reversal pattern consistent with short-term overreaction. These findings contribute to the growing literature on NLP-based trading signals and highlight the importance of RavenPack's CSS as a real-time sentiment indicator.

References

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