

# News Sentiment and Abnormal Stock Returns: Evidence from the Qatar Stock Exchange

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## Motivation

Financial markets respond to news because new information shapes investor beliefs and expectations. Sentiment extracted from textual data helps explain short-term stock return movements, with stronger effects in emerging markets due to lower liquidity, higher information asymmetry, and greater retail participation.

This paper studies the Qatar Stock Exchange, where firm-specific news plays an important role in price discovery and investor behavior. Rather than using an aggregate sentiment measure, the analysis applies a multi-dimensional framework that distinguishes between specific emotions.

Grounded in behavioral finance, the focus is on anger and anticipation. Anger is linked to aggressive reactions and selling pressure, while anticipation reflects forward-looking expectations and gradual position building.

## Hypotheses

- H1:** Anger-related news is associated with negative abnormal returns on the event day.  
**H2:** The negative effect of anger persists after the news release.  
**H3:** Anticipation-related news is associated with positive abnormal returns.

## Contributions

This paper offers three contributions.

First, it provides firm-level event-study evidence that specific emotions embedded in news headlines predict abnormal stock returns in an emerging market, showing that sentiment effects are not uniform across emotional dimensions.

Second, it applies a multi-dimensional sentiment framework to distinguish between anger and anticipation, demonstrating that different emotions are associated with distinct return patterns on the event day and in the short post-event window.

Third, it delivers new empirical evidence from the Qatar Stock Exchange, an understudied market where sentiment-driven price reactions may be amplified by market structure and investor composition.

Overall, this study shows that news sentiment affects price formation through specific emotional channels, and that these effects are economically meaningful in emerging equity markets.

## Data

The empirical analysis uses firm-level news announcements and daily stock price data for companies listed on the *Qatar Stock Exchange*. News headlines are obtained directly from the exchange and represent official firm disclosures released to the market. Stock prices and trading data are sourced from *Refinitiv*.

- Sample period:** 2006–2025 for news; 2010–2024 for price data
- News events:** 7,624 firm-specific headlines
- Firms:** All QSE-listed firms with overlapping news and price coverage
- Returns:** Daily close-to-close returns

News sentiment is extracted at the headline level using a multi-dimensional emotion lexicon covering anger, anticipation, fear, joy, sadness, surprise, trust, and disgust. Each headline may have multiple emotions.

## Methodology

### Abnormal Returns

Daily stock returns are computed using close-to-close prices:

$$R_{i,t} = \frac{P_{i,t}}{P_{i,t-1}} - 1$$

Expected returns are defined using a firm-specific pre-event benchmark, calculated as the average return over the 9 trading days preceding the event by 5 days:

$$\bar{R}_i = \frac{1}{9} \sum_{k=-14}^{-6} R_{i,k}$$

Abnormal returns are then computed as:

$$AR_{i,t} = R_{i,t} - \bar{R}_i$$

for  $t = 0, 1, \dots, 5$ .

### Empirical Specification

The association between sentiment markers and abnormal returns are examined using:

$$(1) AR_{i,0} = \alpha + \sum_{k=1}^7 \beta_k \text{Sentiment}_{i,k} + \varepsilon_i$$

To examine short-term dynamics, separate regressions are for each horizon  $t = 1, \dots, 5$ , the following regression is estimated:

$$(2) AR_{i,t} = \alpha + \sum_{k=1}^7 \beta_k \text{Sentiment}_{i,k} + \varepsilon_i$$

### Non-Linear Analysis

Regression tree model is estimated for Day 0 using the same emotion variables to capture non-linear effects and interactions that are not identified by linear regressions.

## Empirical Findings

### Event-Day Regression

Emotion-specific sentiment on the event day provides the strongest explanatory signal for abnormal returns. Anger is associated with a large negative abnormal return of  $-1.473\%$ , while anticipation generates a positive abnormal return of  $0.097\%$ . Sadness and surprise are also positively priced, with coefficients of  $1.210\%$  and  $0.319\%$ , respectively. Other emotions are not statistically significant. These results indicate that immediate price reactions depend on specific emotional content rather than aggregate sentiment.

| Sentiment Marker                  | Coefficient | Sentiment Marker | Coefficient |
|-----------------------------------|-------------|------------------|-------------|
| Anger                             | -1.473 ***  | Disgust          | 0.388       |
| Sadness                           | 1.21 ***    | Joy              | -0.046      |
| Surprise                          | 0.319 **    | Trust            | -0.053      |
| Anticipation                      | 0.097*      |                  |             |
| Note: *p<0.1; **p<0.05; ***p<0.01 |             |                  |             |

### Post-Event Dynamics

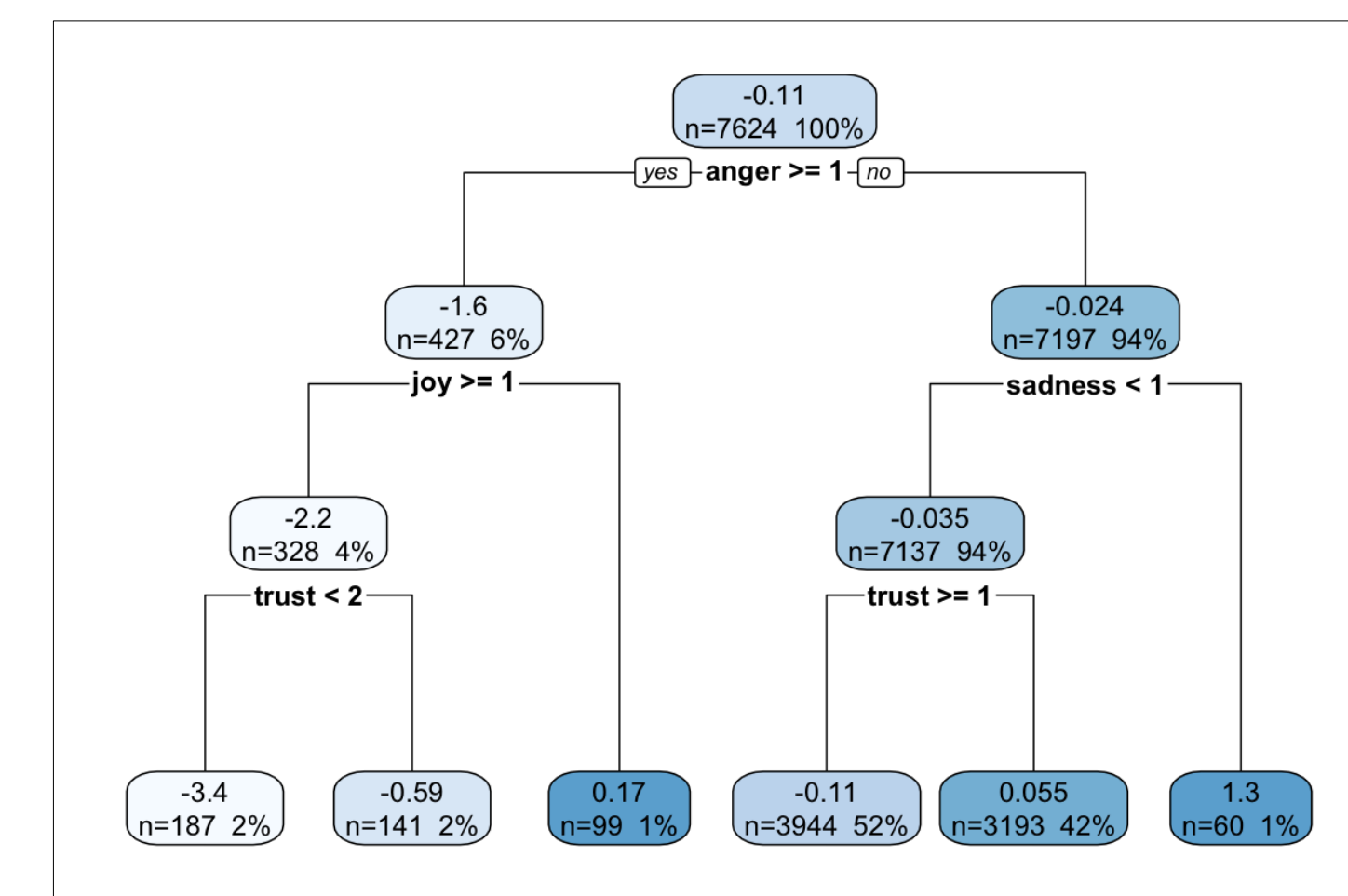
Forward abnormal return regressions show limited persistence of sentiment effects beyond the event day. Anger and fear are not significant in the immediate post-event period but become significant on Day +5, with coefficients of  $0.500\%$  and  $-0.540\%$ , respectively. Trust exhibits the most consistent post-event effect, with negative abnormal returns on Day +1 ( $-0.147\%$ ), Day +2 ( $-0.084\%$ ), and Day +4 ( $-0.075\%$ ). Other emotions do not display systematic effects across the five-day window, indicating episodic rather than persistent post-event sentiment dynamics.

| Emotion                           | Day +1    | Day +2   | Day +3 | Day +4   | Day +5   |
|-----------------------------------|-----------|----------|--------|----------|----------|
| Anger                             | -0.042    | -0.378   | 0.168  | 0.197    | 0.500*   |
| Anticipation                      | 0.061     | 0.026    | -0.059 | -0.053   | 0.023    |
| Disgust                           | 0.387     | 0.226    | -0.314 | -0.204   | 0.297    |
| Fear                              | -0.063    | 0.058    | -0.109 | -0.018   | -0.540** |
| Joy                               | 0.020     | -0.055   | 0.006  | 0.114    | 0.064    |
| Sadness                           | -0.331    | 0.213    | -0.242 | -0.210   | -0.086   |
| Surprise                          | 0.019     | 0.119    | -0.059 | -0.030   | 0.002    |
| Trust                             | -0.147*** | -0.084** | -0.032 | -0.075** | -0.052   |
| Note: *p<0.1; **p<0.05; ***p<0.01 |           |          |        |          |          |

### Event-Day Regression Tree

The event-day regression tree shows strong non-linear effects. Anger is the primary split, with anger-related headlines producing  $-1.6\%$  abnormal returns versus  $-0.024\%$  otherwise. Interactions with joy and trust generate extreme losses of up to  $-3.4\%$ , while higher trust mitigates losses. This indicates that event-day price reactions are concentrated in specific emotional regimes rather than spread evenly across events.

## Empirical Findings



## Trading strategies

### Trading Rule

Buy at the close on the announcement day and sell at the close on day +5.

### Emotion-Based Filters

- Anger filter:** Exclude news containing anger sentiment; reduces short-term downside risk and *delivers a 9.7% annualized return*.
- Sadness filter:** Exclude news containing sadness sentiment; limits adverse post-event dynamics and *delivers an 11.1% annualized return*.

## Conclusion

- Simple emotion filters deliver strong economic value, yielding **9.7%** annualized returns when anger is excluded and **11.1%** when sadness is excluded.
- Event-day reactions are strongly emotion-driven, with anger producing a  $-1.47\%$  abnormal return.
- Non-linear effects are substantial, as anger-related news leads to  $-1.6\%$  losses on average and up to  $-3.4\%$  in extreme cases.
- Price adjustment is delayed, with anger ( $+0.50\%$ ) and fear ( $-0.54\%$ ) becoming significant only by day +5.
- Trust consistently underperforms post-event, with abnormal returns of  $-0.15\%$  on day +1 and  $-0.08\%$  on days +2 and +4.
- These results show that emotion-level sentiment, not aggregate polarity, is central to short-term price formation in emerging markets.

## References

References



Paper

