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**Title:** Unravelling the Patterns of Sentiment: A Deep Dive into Investor Sentiment and Financial Markets

**Summary:** In today's rapidly changing social and news media landscape, the dissemination of information plays a crucial role in shaping the financial markets. This seminar explores the intricate relationship between textual sentiment, investor sentiment, and its impact on financial markets.

The seminar delves into the statistical properties, inherent patterns, and sentiment scores at various frequencies, including 1-minute, hourly, and daily intervals. It highlights the contrasting differences and striking similarities between sentiment derived from news and social media sources. Notably, the analysis reveals a clear and growing trend indicating that social media's impact on the financial market is becoming increasingly prominent and surpassing the influence of traditional news media. The return responses to social media sentiment nearly doubled in the latest period, while news-based sentiment's impact decreased by half. Furthermore, the persistent linkage between volatility and sentiment surpasses that between returns and sentiment, providing valuable insights into market dynamics.

Further, examining the relationship between overnight sentiment in social and news media and subsequent stock market behaviour, we find that sentiment from social media has a more substantial influence on stock prices compared to traditional news sources. Highly positive sentiment in social media correlates with an average excess annual return of 4.75%, while highly negative sentiment is associated with -4.99% returns. In contrast, news media sentiment exhibits weaker effects, with 2.5% and -3.05% annual returns for highly positive and negative sentiment, respectively. These findings persist even after accounting for previous day price performance and fundamental news events, emphasizing the need for high-frequency sentiment metrics to capture sentiment's impact fully.

Expanding the analysis across 14 international markets, the seminar reveals that heightened media sentiment during non-trading periods significantly affects next day opening returns, independent of previous day activity. Interestingly, the US market exhibits stronger reactions to social media sentiment compared to other markets, which are more responsive to news. The study also identifies that sentiment aggregated three hours before markets open explains

the majority of overnight return variability. This indicates that overnight sentiment contains additional information beyond previous day market activity, enhancing predictability in return forecasting models.

Overall, this seminar provides a comprehensive exploration of textual sentiment, its translation into investor sentiment, and the consequential impact on financial markets. By investigating the evolving dynamics between social and news media, statistical properties, and high-frequency sentiment metrics, it sheds light on future areas of development in the realm of investor sentiment analysis. The findings underscore the growing dominance of social media as a significant media source and highlight the need to embrace granular data to capture the nuanced impact of sentiment on the stock market.