

# Does Trading Volume Mitigate or Amplify Mispricing?

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## Abstract

We find that when volume is relatively low, trading volume is primarily driven by attention rather than disagreement. An increase in volume, reflecting heightened attention, can mitigate mispricing stemming from limited attention. In contrast, when volume is relatively high, we find a stronger correlation between volume and disagreement than attention. Here, an increase in volume, suggesting heightened disagreement, may enhance investor bias, thereby amplifying mispricing driven by such bias. Overall, whether trading volume amplifies or mitigates mispricing depends on both the volume state (high or low) and the source of mispricing, whether due to limited attention or investor bias.

## Introduction

Behavioral finance seeks to improve our understanding of financial data by employing models that incorporate assumptions about investors' beliefs, preferences, and cognitive limitations. Prominent findings link mispricing to two key forces: investor bias (e.g., extrapolative beliefs), and limited attention (Daniel, Hirshleifer, and Sun, 2020; Chen, He, Tao, and Yu, 2022).

Studies on volume-mispricing relation – limited but inconclusive too!

➢ Hou, Peng and Xiong (2009): trading volume - a proxy for attention - Mitigate mispricing (earnings momentum)

➢ Han, Huang, Huang, Zhou (2022): trading volume - a proxy for disagreement - Amplify mispricing (MISP)

This raises two crucial questions:

Q1: Does trading volume amplify or mitigate mispricing?

Q2: How to interpret trading volume as a measure of disagreement or attention, is it state-dependent?

In this paper, we carry out an exhaustive investigation to address these questions and supply the associated economic explanations.

## Data Analysis

Two types of mispricing (Daniel, Hirshleifer, and Sun, 2020):

- PEAD – limited attention
- FIN – investors' bias (e.g., over-extrapolation and overconfidence)

A composite mispricing index:

- MISP from Stambaugh and Yuan (2017)

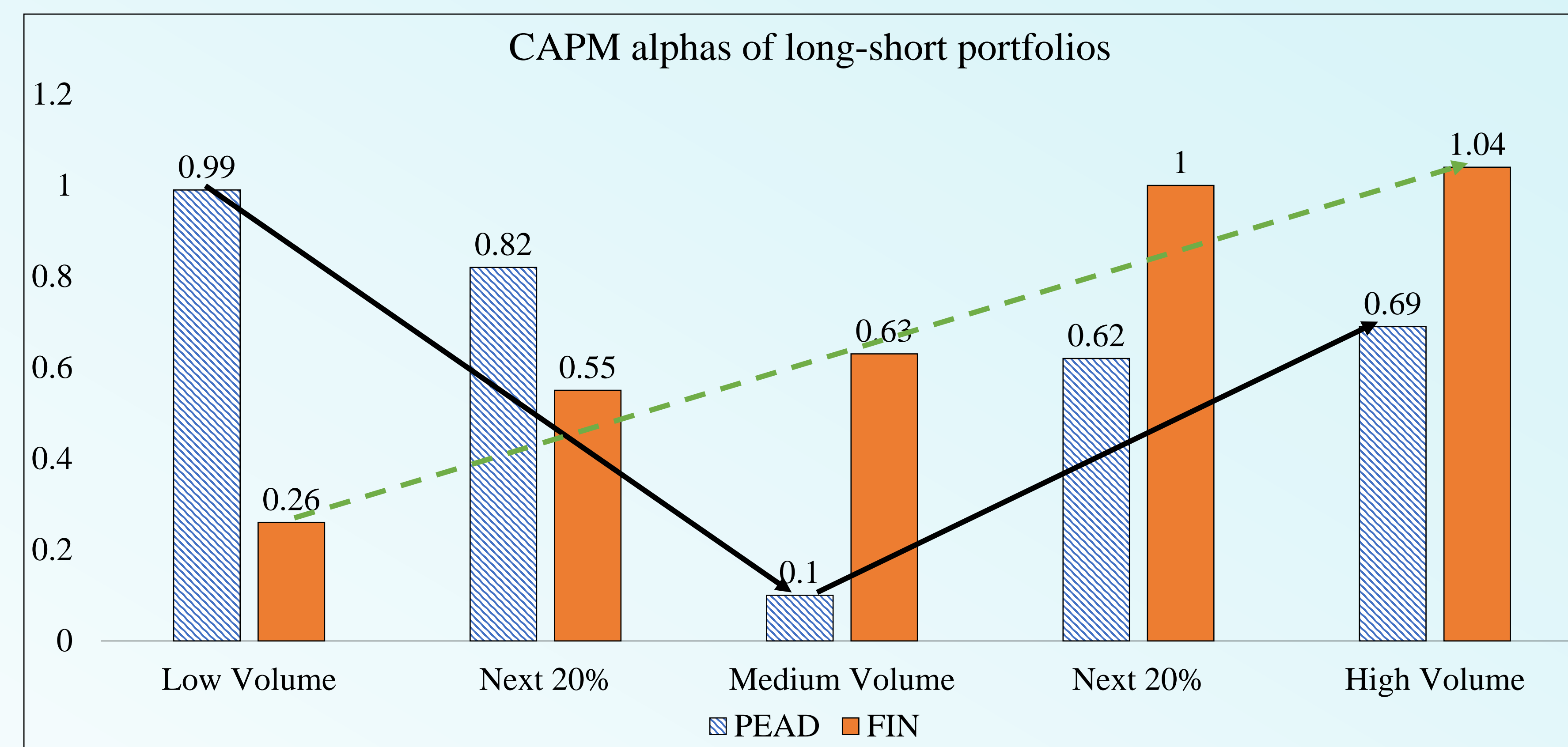
Attention: average z-score of 6 attention proxies

- abnormal Google search volume
- media coverage: the number of news articles for each stock on Thomson Reuters News Analytics
- abnormal EDGAR download
- analyst coverage
- price delay: the average delay with which a firm's stock price responds to market information (Hou and Moskowitz, 2005)
- abnormal Bloomberg download

Disagreement: average z-score of 3 disagreement proxies

- stock return volatility
- analysts' return forecast dispersion
- analysts' earnings forecast dispersion

## Key Findings



	Low Volume	Next 20%	Medium Volume	Next 20%	High Volume	M-L	H-M	H-L
Attention	0.15 *	1.08 ***	1.24 ***	1.23 ***	1.12 ***	1.10 ***	-0.12 ***	0.98 ***
	(1.92)	(14.68)	(28.86)	(29.84)	(30.77)	(14.36)	(-4.84)	(11.37)
Disagreement	-0.98 ***	-1.03 ***	-0.93 ***	-0.61 ***	-0.04	0.06	0.89 ***	0.94 ***
	(-43.79)	(-33.15)	(-27.32)	(-13.87)	(-0.83)	(1.20)	(28.08)	(14.95)
		Volume Q1-Q3		Volume Q3-Q5		Volume Q1-Q5		
PEAD		<i>negative</i>		<i>positive</i>		<i>slightly negative</i>		
FIN		<i>positive</i>		<i>positive</i>		<i>strongly positive</i>		
MISP		<i>insignificant</i>		<i>positive</i>		<i>positive</i>		

## Results

Q1: Does trading volume mitigate or amplify mispricing?  
• It depends on both mispricing sources and volume state

➢ U-shaped relation between Trading Volume and PEAD  
• Low-volume state (quintile 1 to 3): attention mitigation effects  
• High-volume state (quintile 3 to 5): disagreement amplification effects

➢ Amplification effect on FIN  
• Low-volume state (quintile 1 to 3): more attention on disagreement  
• High-volume state (quintile 3 to 5): disagreement amplification effects

➢ Amplification effect on MISP  
• Low-volume state (quintile 1 to 3): insignificant  
• High-volume state (quintile 3 to 5): disagreement amplification effects

Q2: How to interpret volume: attention, disagreement or depends?

- State-dependent:

- Low-volume state: volume is driven by attention not disagreement
- High-volume state: volume is driven by disagreement not attention

## Conclusion

Our study highlights trading volume's dual function as both an indicator of disagreement and attention, the prominence of which fluctuates depending on the volume state. We find that the impact of trading volume on mispricing is determined by both the volume state and the root of the mispricing, whether it arises from investor bias or limited attention. Specifically, an increase in trading volume may mitigate mispricing resulting from limited attention when it reflects attention in states of low volume. However, when trading volume represents disagreement in high-volume states, it can amplify mispricing driven by investor bias, via exacerbating such bias.

These insights illuminate a nuanced interplay between trading volume, attention, disagreement, and mispricing, offering valuable knowledge into an area that has been relatively under-researched in current literature. This work advances our understanding of these multifaceted dynamics and may have significant applications for future studies.

## References

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