# Short-term volatility drives stock prices upward, research finds

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While savvy investors might say that a stock's value is the determining factor for how much they're willing to pay, Pitt researchers have shown that recent price trends and other aspects unrelated to a stock's value are important in determining the price investors actually pay.

"A basic rationale for price movement is due to changes in the value of the asset. In the absence of any insight into the motivations of investors and traders, one might stipulate that prices should fluctuate randomly about this basic valuation," says Gunduz Caginalp, professor of mathematics at Pitt, one of the authors of the study.

But Caginalp and one of his students, coauthor Mark DeSantis, found strong statistical evidence that a short-term price trend tends to increase trading prices in financial markets, to a magnitude of almost half that of valuation.

The researchers also found statistically significant positive impacts on the price with respect to the stock's short-term volatility and volume trend, as well as to the nation's money supply. According to the study, the findings about the money supply's impact validate "asset-flow theory," which holds that additional cash fuels trading price increases.

Caginalp finds the positive correlation of stocks' short-term volatility to price surprising.

"In classical finance, the inverse risk-reward relationship stipulates that high volatility should be interpreted as greater risk, which should diminish the price that traders would pay for the stock," he said.

Caginalp hypothesizes that traders are attracted to high volatility because they foresee volatility as an opportunity for greater profits.

In conducting the study, Caginalp and DeSantis had direct contact with data: The researchers analyzed a data set consisting of 111,356 records from 119 funds, corresponding with the daily closing prices of those funds for the 10-year period from Oct. 26, 1998, through Jan. 30, 2008.

"Papers that discuss motivations beyond valuation rarely have direct contact with market data," says Caginalp. "As such, it is easy for exponents of efficient market theories to dismiss them."

**More information:** Caginalp and DeSantis' findings appear in *Nonlinear Analysis: Real World Applications*, which is currently available online at www.elsevier.com/locate/nonrwa and will be published in the journal in April 2011.

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