Predicting the stock market with Google

February 23 2011, By Shannon Chapla

(PhysOrg.com) -- Two University of Notre Dame business professors continue to be recognized for their research that examines the correlation between Google search frequency and investor attention.

Zhi Da and Pengjie (Paul) Gao, assistant finance professors in Notre Dame's Mendoza College of Business, found that Google's public search data can be used to help predict the stock market.

Da and Gao recently were awarded the 2010 Crowel First Prize for outstanding research for their paper, "In Search of Attention," forthcoming from the *Journal of Finance*. The Crowel prize is awarded by the Quantitative Research Group at PanAgora Asset Management. The paper also won first place during an academic competition sponsored by the Chicago Quantitative Alliance.

Da, Gao and co-author Joey Engelberg from the University of North Carolina at Chapel Hill, were recognized for their empirical analysis of how limited attention on the part of investors may affect stock prices. They proposed a new and more direct way to measure investors' demand for information. They suggested tracking aggregate search frequency on Google, an inexpensive and real-time method to measure retail investors' active attention as opposed to passive attention, such as a newspaper article that may or may not gain a lot of readers.

"Tracking Google searches predicts most other attention measures," Gao says. "Also, changes in search frequency directly relate to trading behavior of less sophisticated investors. They get their information from

the Internet, and the more they research, the more they may become overconfident about their stock picks. This leads investors to trade more, pushing prices away from fundamentals."

According to Gao, these price spikes are particularly relevant during an initial public offering and can contribute to a big first-day return and long-run underperformance.

"Google search frequencies not only can be used for understanding investor behaviors and stock prices, but also can be useful to predict important firm-level fundamentals such revenue surprises, and measure overall investor sentiments," Da says.

Gao studies asset prices, household financial decisions and institutional investor behaviors. Da's research focuses on empirical asset pricing and investment.

Provided by University of Notre Dame