

**Jacobs Levy Equity Management Center
for Quantitative Financial Research**

**2023 Annual Conference
September 22, 2023**

2023 Wharton-Jacobs Levy Prize for Quantitative Financial Innovation Remarks
Bruce I. Jacobs, Ph.D., Chair of the Prize Selection Committee, Jacobs Levy Center
Kenneth N. Levy, Advisory Board, Jacobs Levy Center

KEN LEVY:

Thank you, Chris and Craig, for those kind remarks.

Pete Kyle, the son and grandson of cotton merchants, worked at the Chicago futures market. He knew that the act of trading itself could move prices. A large buy order could push prices up; a large sale could push them down. And not every trader would get the same price. In a 1971 paper, economist Jack Treynor proposed that informed traders with non-public information “make their profits from the market makers, who in turn make *their* profits from those who trade without genuinely new information.” The dynamics of trading seemed closer to game theory than to the efficient market hypothesis.

In Pete’s seminal 1985 paper, “Continuous Auctions and Insider Trading,” he proposed a model to explain trading dynamics when there is information asymmetry along the lines described by Treynor. Pete’s model contains three types of agents: an informed trader who has specific knowledge about the value of what is being traded, uninformed “noise” traders who trade randomly, and market makers who facilitate trading. As the process unfolds, trades by noise traders mask those of the informed trader, who adjusts order flow so that private information is incorporated into prices gradually. Pete’s elegant model became the framework for researching the market impact of trading, and remains so today.

Pete’s insight and expertise has long been in demand in the halls of finance and government. He served on the Brady Commission that examined the causes of the 1987 stock market crash. He has also served in advisory roles to various government agencies, FINRA, and the NASDAQ.

Those of us who manage portfolios—as well as our clients—owe a debt of gratitude to Pete Kyle for shining a light on the inner workings of the trading process, which is so important and yet so little understood.

BRUCE JACOBS:

The Wharton-Jacobs Levy Prize for Quantitative Financial Innovation recognizes outstanding quantitative research that has contributed to an important innovation in the practice of finance. The 2023 Wharton-Jacobs Levy Prize recipient, Albert S. “Pete” Kyle, is being honored for his groundbreaking work exploring the market impact of trading and its effects on prices and liquidity. Even though it is common for empirical work in finance to assume a frictionless market where transaction costs don’t matter, practitioners know that those costs are very real. Before the publication of Pete’s paper, “Continuous Auctions and Insider Trading,” in 1985, putting numbers on some of those costs was, at best, a guess.

Pete's paper, known today as "Kyle '85," gave us a theoretical foundation for understanding a difficult question, how is the cost of a trade affected by the dynamics of the trade itself? More specifically, Kyle '85 helped us to understand how prices are determined when, as is often the case some traders have better information than others. Nobel laureate Robert Engle noted that Kyle's seminal work is one of the first papers that explored how private information is revealed by trading. The paper offers a roadmap for informed agents who want to adjust order flow to maximize profits. It also provides a framework for all of us to understand bid-ask spreads and market liquidity. Kyle '85 gave us Kyle's Lambda, a measure of market liquidity and depth.

More importantly, Pete's work helped spur a broader interest in the study of market microstructure. This offers practitioners crucial information on the real-world costs of their trading strategies. Given the highly competitive nature of our industry, the importance of minimizing such costs cannot be overstated.

When Ken and I established this biennial award in 2011, it was our hope that over time the recipients would constitute an elite group of scholars and practitioners who have had a transformative impact on finance. Prior award winners are Markowitz, Sharpe, Ross, Ball and Brown, Jegadeesh and Titman, and now Pete Kyle. I believe we are achieving that goal.

We are proud to award the 2023 Wharton-Jacobs Levy Prize for Quantitative Financial Innovation to Albert S. "Pete" Kyle in recognition of his seminal research on market microstructure. Pete, thank you for your contributions and a hearty congratulations! Please join us for the presentation of your medal.

Pete, it is an honor to present you with the Wharton-Jacobs Levy Prize Medal.