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Cicada-Like Traders Moving in Sync Have Greater Gains, Researchers Say

By Elizabeth Lopatto - Mar 14, 2011

Traders who align their transactions much like cicadas synchronize their chirping make a profit more of the time, according to a study of market behaviors.

The more often traders acted within the same one-second window, the more money they made at the end of the day, according to a study in the [Proceedings of the National Academy of Sciences](#). Traders make a profit 60 percent of the time when they're in sync, more than the overall average of 55 percent profitable trades, said study author [Brian Uzzi](#), who is the co-director of the Northwestern Institute in Complex Systems at [Northwestern University](#) in Evanston.

[Synchronized behavior](#) benefits individuals and groups in a [variety of animals](#), Uzzi said. [Cicadas](#) who chirp at the same time are less likely to be spotted by a predator, according to previous research. The cicada chorus, works like the trading patterns, arising spontaneously through local interactions, without a central leadership.

"If you go to animal behavior, synchronicity usually occurs when animals are faced by complex information problems, and any individual in a school of fish or flock of birds is overwhelmed," [Uzzi](#), who also teaches at the [Kellogg School](#) of Management, said today in a telephone interview. "So it gave me the hunch that where humans are likely to be overwhelmed by the pace or volume of information, we might be able to find synchronicity."

Not 'Groupthink'

Unlike [groupthink](#), synchronicity arises from multiple people solving the same problem separately. [Groupthink](#), which is comparable to herding in animals, happens when traders see others trading and join. Syncing doesn't always lead to herding, and when it does, it usually takes place before the herd behavior, Uzzi said.

Uzzi's study followed 66 traders over a year and a half. The traders are talking to a few people at once, ignoring what's going on in the larger market, he said. Multiple traders are looking at different parts of the market and when they begin to process masses of information, such as IMs, RSS feeds, and news from various sources, they begin to act in concert. Trade after the sync, and the "solution" will be priced into the stock, Uzzi said.

The trades and the cicada chirps are examples of how complex systems emerge out of simple interactions. Although neither the cicadas nor the traders are centrally organized, their behavior isn't random.

Trading houses may wish to design software that notices moments of sync, enabling traders to wager more money during that time, Uzzi said.

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