SO JUST WHO was the first to discover that there were bundles of money to be made in the rapid trading of mutual-fund shares?

It wasn't Eliot Spitzer, even though the New York attorney general grabbed the headlines eight months ago for exposing that the activity was hurting long-term mutual-fund investors. Nor was it Edward J. Stern, the hedge-fund manager who in September was the first to settle charges by Mr. Spitzer involving the rapid-trading strategy often called market timing.

To get to the roots of the earliest fund market timing, a good place to start is with a less well-known figure -- David Dubofsky, a professor at Virginia Commonwealth University. Sixteen years ago when he worked at Texas A&M University, a student told Mr. Dubofsky about the potential for mutual funds to be gamed through market-timing strategies. That tip -- passed along in the midst of the stock-market crash of 1987 -- set the professor on a course that has now put him in the middle of the largest investigation into mutual-fund wrongdoing in the $7.5 trillion industry's history.

Last week, Janus Capital Group Inc. became the latest firm agreeing to a settlement with federal and state regulators over charges that it allowed sophisticated traders to buy and sell its fund shares at the expense of buy-and-hold shareholders. With Janus's $226 million settlement, the fund industry now has agreed to pay about $2 billion in penalties, restitution and fund-fee reductions as well as jettisoning numerous top executives in connection with the scandal.

For the vast majority of the 91 million fund investors in the U.S., the industry's regulators, and fund-company employees themselves, discovery of the trading abuses couldn't have come as a bigger shock. The fund industry was long held out as a model of good conduct not susceptible to the types of scandals that have often plagued other parts of Wall Street.

But a small group of academics had been pointing out the potential problems with market-timing strategies for years. Since the late 1990s, more than a dozen finance professors at numerous universities have done research to document how market timing works and how it hurts mutual-fund investors. Prompted more by academic curiosity and professional competition than by investor advocacy, the researchers working alone or in small teams wrote at least eight papers on the topic. All were published or widely circulated well before questions about the fund-timing issues attracted Mr. Spitzer's attention beginning last summer.

Yet, unlike an investment scandal in the mid-1990s, when a pair of academics got credit for exposing trading problems on the Nasdaq Stock Market that eventually led to a landmark antitrust case against Wall Street dealers, the professors writing on fund timing even now haven't gotten much of the credit for exposing the trading abuses. To be sure, the mutual-fund research studies didn't document the surprising degree to which fund companies were secretly agreeing to accommodate market timing in their funds. But the papers did identify the basic arbitrage opportunities that attracted hedge funds and other sophisticated investors to see easy profits in mutual funds in the first place.

Looking at market-timing research being circulated in 2000 and 2001 caused the Securities and Exchange Commission's staff to "focus on the issue" of market timing, leading it to clarify to the industry steps that funds could take to deter the practice, says Paul Roye, head of the SEC's Division of Investment Management. But what the SEC staff didn't know -- and, of course, what wasn't detailed in the research papers -- was how widespread the practice was and that "there were funds cutting deals" with market timers to enable their rapid trades, he adds.

As they started to unravel those deals, Mr. Spitzer's investigators also turned to the earlier work of the academics. One study by Prof. Eric Zitzewitz of Stanford University in California received enormous
attention after Mr. Spitzer cited its estimate that investors in international mutual funds could lose 1% to 2% of their assets a year because of the rapid trading.

Among the academics, however, Mr. Dubofsky's story is unique. For one thing, his paper on market timing is recognized as the first to be published. More recently, he has benefited from some good timing himself, which allowed him to become more closely involved than any other academic in helping regulators decide how the fund cases should be handled.

A native of Brooklyn in New York City, Mr. Dubofsky in 1981 took a job teaching at Texas A&M and got his doctorate in finance from the University of Washington the following year. The soft-spoken teacher's primary interest was looking into how investors could manage risk by using complex financial instruments called derivatives.

Mr. Dubofsky's interest in mutual funds perked up after he got a curious lead from graduate student Glenn Rasmussen in 1987. Mr. Rasmussen had saved some money from jobs working in the oil business and decided to invest the bulk of it in international-stock mutual funds.

Mr. Rasmussen liked international funds because he felt they diversified his U.S. real-estate holdings. But a few years before, he also had found a way to juice up his profits from international funds by trading shares in those portfolios on days when the U.S. stock market moved sharply.

It was easy money because of a quirk in the way fund companies priced international funds. Investors like Mr. Rasmussen could place an order to buy or sell fund shares until 4 p.m. Eastern time, but the funds' share price was determined using the closing prices on securities traded in Europe or Asia, determined hours earlier. So if the U.S. stock market took a plunge after the Asian and European markets had closed, that move wouldn't be factored into the funds' net asset value, even though there was a good chance that Asian and European stocks would follow the U.S. market in the next day's trading.

Mr. Rasmussen got an opportunity to illustrate this point to his professor on Oct. 19, 1987, when the Dow Jones Industrial Average suffered its largest one-day fall ever in percentage terms. With coverage of the market crash dominating the TV in the Texas A&M business-school building, Mr. Rasmussen explained to Mr. Dubofsky that he'd be able to save several thousand dollars by immediately selling his shares of GT Global Pacific Growth Fund, whose price didn't yet reflect the sharp drop in the U.S. stock market.

Being able to make such profitable moves was like seeing "a train at the end of the tunnel" and having "enough time to move off the track," says Mr. Rasmussen.

Mr. Dubofsky wondered if such tricks could be used to add profits to international-fund strategies more broadly. In the mid-1990s, as international funds continued to grow in popularity, he and two doctoral students started working on a paper to explore the question. The three found that investors who traded funds like Mr. Rasmussen could add eight percentage points a year in returns if they picked their spots correctly. They also called on the fund industry to change its pricing procedures to cut down on the opportunity for rapid traders to arbitrage profits away from long-term fund shareholders.

The paper -- relatively short for academia at nine pages -- didn't get much notice. One prestigious financial journal declined to publish it, and it ended up appearing in a smaller journal.

Mr. Dubofsky moved to Richmond, Va., in 1997 to take a professor's job at Virginia Commonwealth. The same year, something happened that greatly increased interest among researchers across the country in fund-trading issues. In late October 1997, when the Asian and U.S. stock markets were gyrating wildly, the largest U.S. fund firm, Fidelity Investments, used estimates to update foreign prices for some of its funds to prevent traders from quickly profiting off international time-zone arbitrage strategies.

The move, called fair-value pricing, prompted scrutiny from the SEC and complaints from traders. Academics were also drawn to the growing controversy. Within three years, 16 professors from 11 universities were toiling away on seven more papers on market timing. Many kept their work secret and didn't learn about others' efforts until they appeared on academic Web sites.

"We dropped everything else," says Gregory Kadlec, a professor from Virginia Tech in Blacksburg who for months spent several hours a day discussing a market-timing paper with his co-authors. One reason the pressure was especially high was that there were so many papers trying to get into a handful of publications.

At one point a few years ago, Georgia State University's Jason Greene called Roger Edelen, a professor at the University of Pennsylvania's Wharton School at the time, to ask whether Mr. Edelen would look over a paper on market timing that Mr. Greene was trying to finish.

Mr. Edelen was stunned.
"Wait a second," he interrupted. "We're wrapping up a draft of what sounds like the same paper."

SEC officials, hearing about the research papers, started to press for more information. They invited Mr. Edelen and another professor working on the issue, Geert Rouwenhorst of Yale University, New Haven, Conn., to present their new papers on fund timing to the agency.

The SEC followed up the presentations with a letter to the industry encouraging fund companies to use the kind of fair-value pricing that Fidelity used. But many professors and others say the agency should have given more specific guidance on when to use fair-value pricing. And despite the letter, not many fund companies seemed to be using fair-value pricing with any regularity.

Meanwhile, when Mr. Dubofsky jointly wrote a second paper on market timing in 2001, he and co-author Rahul Bhargava from the University of Nevada at Reno got several dozen calls from interested parties asking for copies of the study. But the calls didn't come from regulators -- they came from sophisticated investors who wanted learn more about how to trade mutual funds.

(MORE)

"I viewed [market timing] as a relatively evil strategy," recalls Mr. Dubofsky. "I was wondering why there wasn't more emphasis on it" by regulators.

In April 2003, Mr. Dubofsky got a break that was even bigger than it first appeared. He was chosen to work for a year in 2004 as a visiting academic at the SEC. Economists that he was slated to work with were interested in his mutual-fund studies, but it didn't seem like those would be a big priority since his work on derivatives was also heating up.

Everything changed on Sept. 3, when Mr. Spitzer touched off an industry-wide investigation of market timing in mutual funds with a settlement involving Mr. Stern's Canary Capital Partners hedge fund. Mr. Stern, who didn't admit nor deny wrongdoing, agreed to pay $40 million to settle the civil charges. The gaggle of professors who had published papers raced to television cameras, to panel discussions, and to start working on more papers examining fund issues.

The fund investigation also leapt to the top of the priority list at the SEC, giving Mr. Dubofsky, now 54 years old, more influence than he ever imagined he would have in the mutual-fund world. Since joining the SEC in January, Mr. Dubofsky has studied funds' trading data to identify which portfolios might be the biggest targets of market-timing activity.

He has also worked on quantifying the monetary damages suffered by investors in funds involved in some of the SEC's biggest fund settlements, including Putnam Investments, Alliance Capital Management Holding LP and Massachusetts Financial Services Co.

"A year ago, I thought I'd come and work on this sleepy research topic," Mr. Dubofsky says of his mutual-fund timing work. "But it's become a lot more important."

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Journal Link: WSJ.com subscribers can see a roundup of SEC proposals for mutual-fund governance, and a scorecard of the latest developments in the fund scandal, at WSJ.com/JournalLinks.