



Can a software programmer be held criminally responsible for designing a program that a trader uses to "spoofer" the commodity futures market?



This is the question posed to the jury in *U.S. v. Thakkar*, 18-cr-36 (N.D. Ill.), which trial began this week in federal court. The case grew out of the manipulative trading activities of Navinder Sarao, a London-based commodities trader who "spoofed" (i.e., placed bids or offers with the intention of canceling them before execution) futures on the Chicago Mercantile Exchange (CME). Sarao's activity allegedly contributed to the May 6, 2010, "Flash Crash" in which the Dow Jones Industrial Average dropped nearly 1,000 points within minutes. [Sarao pleaded guilty](#) to fraud and spoofing charges in November 2016. Jitish Thakkar, the software programmer currently on trial, was indicted in February 2018 on charges that he conspired with Sarao to commit spoofing and that he aided and abetted Sarao's spoofing by developing a customized software program that Sarao used to execute manipulative trades. The [indictment](#) against Thakkar marks the first time the U.S. Department of Justice (DOJ) has prosecuted an individual other than a trader with a spoofing-based crime. Thakkar's trial began earlier this week on April 1, 2019, and is already off to a rocky start for DOJ. On Thursday—after several days of witness testimony—the court granted the defense's motion for an acquittal on the indictment's conspiracy charge, holding that the government had failed to present sufficient evidence of an agreement between Sarao and Thakkar to commit criminal spoofing. Trial will continue on Counts II and III of the indictment for aiding and abetting spoofing. To secure a conviction on those counts, DOJ must prove that Thakkar knew or had reason to know that Sarao was using the software to spoof the market and substantially assisted him in doing so. ***The Government's Allegations*** On April 1, 2019, DOJ Trial Attorney Michael T. O'Neill opened the trial by telling the jury that Sarao and Thakkar committed spoofing using the software Thakkar's company designed and built for Sarao. In 2011, Thakkar was president of Edge Financial Technologies, which developed software for financial market participants, including traders. DOJ alleges that Sarao was looking for a way to more easily spoof the E-mini S&P 500 futures market. In general, Sarao would place an order to buy a large number of futures contracts (or "lots") or an offer to sell a large quantity of futures contracts on one side of a particular market. This would convey to the market that demand was high, and thus increase the price, or conversely that supply was high, and thus decrease the price. While that bid or offer was open, Sarao would allegedly place a smaller "genuine" bid or offer on the other side of the market with the goal that it would be filled once the large first one moved the market favorably for Sarao. His large bid or offer would need to remain open long enough to move the market, but ideally not get filled, before he cancelled it. To better accomplish an order cancellation without fill, DOJ alleges that Sarao asked Thakkar for software with a "back-of-the-book" function that would allow Sarao to keep his large bids or offers "last in line" for filling long enough to allow his genuine bid or offer to get filled. Sarao paid Thakkar's company approximately \$24,000 to develop this software. DOJ alleges that Sarao subsequently engaged in more than 1,000 spoofed transactions with the software and caused approximately \$10 million in losses to traders and investors. ***Early Trial Developments*** To establish its case against Thakkar, DOJ is relying, in part, on Sarao's testimony about his alleged coordination with Thakkar. Sarao testified this week that Thakkar drafted the contract for developing the trading software, which reflected that Sarao did not want to be "hit" (i.e., filled) on certain orders. Sarao also testified that, in addition to the back-of-the-book functionality, he also discussed with Thakkar a "first-clip" or "first-click" function that would allow orders at the back of the book to be canceled as soon as possible even if they did start filling. Finally, Sarao testified that he was confident that Thakkar knew enough about trading to realize that Sarao's requested trading program would be used for spoofing. However, Sarao conceded that he alone made decisions as to when to place a bid or offer, when to cancel, and whether to utilize the software's back-of-the-book functionality. Sarao also admitted that he and Thakkar never agreed to "spoofer the market;" that he did not think he and Thakkar were colluding to commit crimes; and that the two never consulted on any particular trade. The government also called a CME Group director to provide background testimony regarding the structure of futures markets and later called an expert witness who provided analysis of trading records and data that allegedly show Sarao used Thakkar's software on more than 1,000 spoofed E-mini futures orders. ***Thakkar's Defense*** Thakkar maintains that he should not be criminally responsible for his employees' doing their job where none of them knew about Sarao's intended criminal purposes. Thakkar asserts that when Sarao approached him with specifications for a software program, Thakkar—who is not a trader—passed on Sarao's specifications to his employees at Edge Financial. Edge Financial's computer programmers then built the software with Sarao's desired functionality.

Thakkar points out that he never met Sarao in-person, and contends that Sarao only indicated that his intended trading plan was to keep his orders at the back of the book. Finally, neither Thakkar nor Edge Financial received a portion of Sarao's millions of dollars in profits from spoofing the market with the program—only the \$24,000 for developing the software. ***Other Criminal Spoofing Trials*** The government has a mixed track record at trial in high-profile spoofing cases. In [\*U.S. v. Coscia\*](#), Michael Coscia was indicted on charges of spoofing and commodities fraud arising out of his commissioning and using a computer program designed to place small and large orders simultaneously on both sides of the commodities market to induce artificial market movement. Prosecutors in *Coscia* declined to bring charges against the software programmer—something the *Thakkar* prosecutors justified based on Coscia's programmer's lack of knowledge that Coscia intended to engage in wrongdoing. Coscia was convicted by a jury and sentenced to 36 months' imprisonment. The Seventh Circuit [affirmed his conviction and sentence](#), and the Supreme Court of the United States denied *certiorari*. In September 2017, [federal prosecutors charged Andre Flotron](#), a manual trader at UBS, with one count of conspiracy to commit spoofing, commodities fraud, and wire fraud arising out of the trading of precious metals futures contracts. In a superseding indictment, Flotron was charged with conspiracy to commit commodities fraud and other substantive spoofing and commodities fraud violations. However, the court dismissed almost every charge in the superseding indictment, finding those charges lacked an adequate connection to the Connecticut venue where prosecutors brought the case. Flotron went to trial on the remaining count—conspiracy to commit commodities fraud—and a jury acquitted Flotron after just one day of deliberations. Among other arguments, the defense highlighted the government's lack of evidence that Flotron had agreed to take part in a conspiracy to commit commodities fraud. Two other spoofing cases pending in the Northern District of Illinois include: [\*U.S. v. Bases & Pacilio\*](#) (18-cr-48, N.D. Ill.) and [\*U.S. v. Vorley & Chanu\*](#) (18-cr-35, N.D. Ill.). Both involve precious metals traders, although the defendants in *Vorley & Chanu* have been charged only with wire fraud. \* \* \* The balance of the *Thakkar* trial implicates hotly-debated legal issues concerning aiding-and-abetting liability, as well as the reach of the specific federal spoofing statute to secondary actors. But it also highlights the challenges prosecutors face in proving "intent" in spoofing-based prosecutions. Previous spoofing trials have often been characterized as a "battle of the experts," or "prosecution by statistics," as expert witnesses analyze and dissect thousands of allegedly spoofed trades in order to show that traders possessed the requisite intent to manipulate the market. Here, the government's star witness, Sarao, readily admits that he used software developed by Thakkar and Edge Financial to engage in spoof trading. The essential question remains whether Thakkar knew, or had reason to know, that Sarao was using his software to spoof the market. Thus, stripped of the expert testimony and complex high-frequency trading, this bellwether case centers around the same questions of intent that the government must overcome in all spoofing prosecutions.

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