

The New York Times

In Search of a Market Speed Limit - *Two Critics Take Aim at Lightning-Quick Trades*

September 9, 2012, Lead Story, Sunday Business Section

By Nathaniel Popper



CHATHAM, N.J. - TICKER tape: it's an enduring image of Wall Street. The paper is gone but the digital tape runs on, across computer and television screens. Those stock quotations scurrying by on CNBC are, for many, the pulse of American capitalism.

But Sal L. Arnuk doesn't really believe in the tape anymore — at least not in the one most of us see. That tape, he says, doesn't tell the whole truth.

That might come as a surprise, given that Mr. Arnuk is a professional stockbroker. But suddenly, and improbably, he has emerged as a leading critic of the very market in which he works. He and his business partner, Joseph C. Saluzzi, have become the voice of those plucky souls who try to swim with Wall Street's sharks without getting devoured.

From workaday suburban offices here, across from a Gymboree, these two men are taking on one of the most powerful forces in finance today: high-frequency trading. H.F.T., as it's known, is the biggest thing to hit Wall Street in years. On any given day, this lightning-quick, computer-driven form of trading accounts for upward of half of all of the business transacted on the nation's stock markets.

It's a staggering development — and one that Mr. Arnuk, 46, and Mr. Saluzzi, 45, say has contributed to the hair-raising flash crashes and computer hiccups that seem to roil the markets with alarming frequency. Many ordinary Americans have grown wary of the stock market, which they see as the playground of Google-esque algorithms, powerful banks and secretive, fast-money trading firms.

To which Mr. Arnuk and Mr. Saluzzi say: enough. At their Lilliputian brokerage firm, they are tilting at the giants of high-frequency trading and warning — loudly — of the dangers they pose. Mr. Saluzzi was the only vocal critic of H.F.T. appointed to a 24-member federal panel that is

studying the topic. Posts from the blog that the two men write have been packaged into a book, “Broken Markets: How High Frequency Trading and Predatory Practices on Wall Street are Destroying Investor Confidence and Your Portfolio,” (FT Press, 2012) which was published in June. They are even getting fan mail.

But they are also making enemies.

Proponents of high-frequency trading call them embittered relics — quixotic, old-school stockbrokers without the skills to compete in sophisticated, modern markets. And, in a sense, those critics are right: they are throwbacks. Both men say they wish Wall Street could go back to a calmer, simpler time, all the way back to, say, 2004 — before the old exchange system splintered and murky private markets sprang up and computers could send the Dow into 1,000-point spasms. (The bottle of Tums Ultra 1000 and the back-pain medication on Mr. Arnuk’s desk here are a testament to their frustrations.)



Joseph Saluzzi in the office of Themis Trading in New Jersey. Mr. Saluzzi and his business partner, Sal Arnuk, wrote a book criticizing high-frequency trading.

They have proposed solutions that might seem simple to the uninitiated but look radical to H.F.T. insiders. For instance, the two want to require H.F.T. firms to honor the prices they offer for a stock for at least 50 milliseconds — less than a wink of an eye, but eons in high-frequency time.

On the Friday before Labor Day weekend, Mr. Arnuk was sitting in the office of Themis Trading, the brokerage firm he founded with Mr. Saluzzi a decade ago. It is little more than a fluorescent-lit single room; the most notable decoration is a poster signed in gold ink by the cast of “The Sopranos.” Above Mr. Arnuk, the tape scrolled by on the Bloomberg Television channel. But other numbers danced on four computer screens on his desk. Mr. Arnuk kept moving his cursor across those screens, punching in figures, trying to find the best price for a customer who wanted to buy a particular stock.

His eyes scanned the stock’s going price on 13 stock exchanges across the nation. The investing public is now using so many exchanges because new regulation and technology have rewritten the old rules and let in new players. It’s not just the Big Board or the Nasdaq anymore. It’s also the likes of BATS and Direct Edge.

Mr. Arnuk then eyed the stock’s price on dozens of other trading platforms — private ones most people can’t see. Known as the dark pools, they help hedge funds and other big-money players trade in relative secrecy.

Everywhere, different prices kept flickering on the screens. Computers at high-speed trading firms, Mr. Arnuk said, were issuing buy and sell orders and then canceling them almost as fast, testing the market. It can be hell on human brokers. On the tape, the stock's price was unchanged, but beneath the tape, things were changing all the time.

“They will flicker to see who is not flickering,” Mr. Arnuk said of H.F.T. computers. “The guy who is not flickering is the idiot — the real investor.”

From his desk a few feet away, Mr. Saluzzi chimed in: “That’s how the game is played now.”

ON the afternoon of May 6, 2010, shortly before 3 o’clock, the stock market plummeted. In just 15 minutes, the Dow tumbled 600 points — bringing its loss for the day to nearly 1,000. Then, just as fast, and just as inexplicably, it sprang back nearly 600 points, like a bungee jumper.

It was one of the most harrowing moments in Wall Street history. And for many people outside financial circles, it was the first clue as to just how much new technology was changing the nation’s financial markets. The flash crash, a federal report later concluded, “portrayed a market so fragmented and fragile that a single large trade could send stocks into a sudden spiral.” It turned out that a big mutual fund firm had sold an unusually large number of futures contracts, setting off a feedback loop among computers at H.F.T. firms that sent the market into a free fall.

Despite computers’ many benefits — faster, cheaper trades, and mind-boggling analytics — they have been causing problems on Wall Street for years. Technology has fostered so-called hot money — money that quickly shifts from one stock to another, or one market to another, always seeking higher returns. Computer-driven program trading was developed in the 1980s and was a contributing factor in the 1987 market crash, though it wasn’t the main culprit, as many initially thought.

Since the 2010 flash crash, mini flash crashes have occurred with surprising regularity in a wide range of individual stocks. Last spring, a computer glitch scuttled the initial public offering of one of the nation’s largest electronic exchanges, BATS, and computer problems at the Nasdaq stock market dogged the I.P.O. of Facebook.

And last month, Knight Capital, a brokerage firm at the center of the nation’s stock market for almost a decade, nearly collapsed after it ran up more than \$400 million of losses in minutes, because of errant technology. It was just the latest high-profile case of Wall Street computers gone wild.

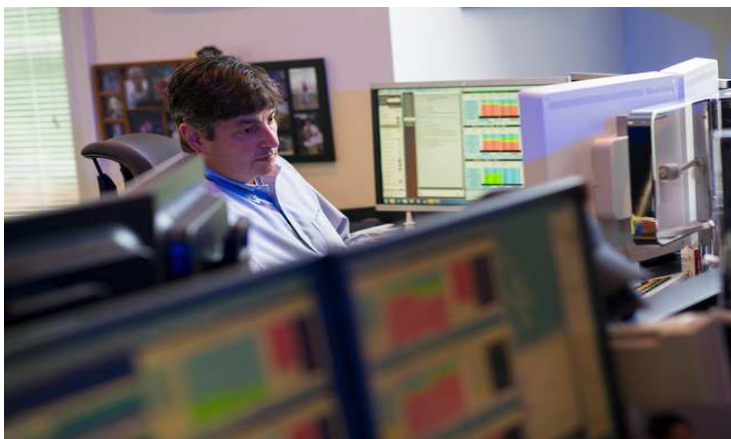
High-frequency traders didn’t cause all of these problems. But these traders and their computers embody the escalating technological arms race raging across financial industry.

The stock market establishment says the recent mishaps distract from the enormous benefits that technology has brought. The new trading outlets have democratized the system and made it possible to trade anytime, anywhere. Competition has forced exchanges and trading firms to

reduce the commissions they charge. George U. Sauter, chief investment officer at the mutual fund giant Vanguard, has said the shift saved hundreds of millions of dollars for Vanguard investors.

James Angel, a professor at Georgetown University and a member of the board of Direct Edge, said Mr. Arnuk and Mr. Saluzzi were stoking irrational fears of a market that is providing good returns to investors. Mr. Angel compared them to people “who gripe that their cellphone is too complicated, ignoring the fact that 20 years ago they didn’t even have a cellphone.”

But Mr. Arnuk and Mr. Saluzzi say such assessments ignore the hidden costs of high-frequency trading, particularly the market instability it can create.



Matt Rainey for The New York Times

Sal Arnuk of Themis Trading. He said he did not believe the stock tape anymore because it did not reflect all high-speed trades.

They say firms that dominate the market often stop trading during times of crisis, when they are needed the most. They also contend that ordinary investors are paying more for their stocks, not less, because computerized traders pick up information about stock orders and push up prices before orders can be filled. Traders of all sorts have split orders into smaller and smaller blocks, making it harder for everyone to complete some types of basic trades.

“They took one of the most simple processes in the world, matching up supply and demand, and made it such a complicated labyrinth,” Mr. Arnuk said.

He and Mr. Saluzzi trace the roots of the market’s current travails to a number of regulatory changes over the last two decades. But they give the starring role to a set of rules adopted in 2007 by the Securities and Exchange Commission. The rules are known as the Regulation National Market System, or Reg N.M.S.

Before those rules, computerized trading had been steadily growing, but the market was still dominated by the human traders on the floor of the New York Stock Exchange. Reg N.M.S. broke the Big Board’s domination by requiring that orders be sent to the trading platform with the best price. This seemingly small change led to a proliferation of new platforms, like dark pools. It also put a premium on speed, giving an advantage to firms that could place orders first and take advantage of minuscule price differences among exchanges.

At Themis, Mr. Arnuk and Mr. Saluzzi soon noticed they were having trouble completing what previously were easy orders. When they tried to buy stock at the price listed on an exchange, the

price would disappear almost as soon as they entered their order. Then it would reappear — at a penny or more higher.

The two began by voicing complaints in morning notes to clients. Soon they moved on to industry publications like *Traders Magazine*, then to the mainstream news media.

In July 2009, or 10 months before the flash crash, Mr. Saluzzi squared off on CNBC against Irene Aldridge, a prominent advocate of high-frequency trading. Mr. Saluzzi declared that high-frequency traders could get an early peek at buy and sell orders, giving them an edge over everyone else. The H.F.T. crowd could simply jump in front of ordinary investors, he said.

“There is nothing illegal about what you are doing,” Mr. Saluzzi told Ms. Aldridge. “But, you know, it is not ethical.”

Ms. Aldridge was incensed.

“How dare you accuse us of being unethical — you’re unethical,” she shot back. “We are cutting your margins — of brokerages like yours — because you cannot compete, because you do not have the proper skills.”

As the host, Sue Herera, tried to cut to a commercial, the two shouted backed and forth.

“Yeah, hope your computer doesn’t blow up tomorrow, O.K.?” Mr. Saluzzi snarled at Ms. Aldridge. “Make sure the fuses are O.K.”

The line proved prophetic.

SAL ARNUK and Joe Saluzzi are unlikely Wall Street gadflies. Mr. Arnuk grew up in modest surroundings in the Bay Ridge section of Brooklyn, Mr. Saluzzi in Sheepshead Bay. They met after college in back-office jobs at Morgan Stanley and bonded over weekend softball games and commutes. Both soon realized they didn’t have the connections to move up at a white-shoe Wall Street firm.

Talking to them now, it’s clear that both have a certain anti-establishment bent, at least as far as Wall Street is concerned. Mr. Arnuk says he filled the wall of his dorm room at what is now Binghamton University with rejection letters from financial firms. After business school, their scrappy attitudes led them to computerized trading, the upstart part of the industry in the 1990s. They spent nearly a decade at Instinet, one of the original off exchange trading platforms.

When they struck out on their own and founded Themis in 2002, they intended to use their technological expertise to help clients navigate the markets. But soon enough, they say, the computers took over, with formulas pushing share prices up and down regardless of anything happening at the underlying company.

Mr. Saluzzi acknowledges that computerized trading has hurt firms like Themis, which executes trades on behalf of clients. Many former Themis clients now trade via algorithms, or algos, with no human involvement. But both men say human brokers can often navigate complex markets better than computers. Last year, Themis's revenue was up 10 percent, despite an overall decline in trading volume, they say. This year, revenue is holding steady.

One Themis client, Derek Laub, director of trading at Jetstream Capital, a small investment firm just outside Nashville, says he turns to Themis because Mr. Arnuk and Mr. Saluzzi provide a human touch, and help him avoid falling prey to more sophisticated H.F.T. firms. Trading through Themis costs Mr. Laub a bit more — about 1 cent a share, total — but that's still cheaper than the 3 cents or 4 cents charged by many big banks. More important, Mr. Laub says he likes Themis because it speaks for small investment firms that don't have the time or wherewithal to examine every problem in the market structure or to take on the big trading firms.

“You feel like there is at least someone out there who is going to give the other side of the argument,” Mr. Laub said.

The views of Mr. Arnuk and Mr. Saluzzi are gaining more traction with industry insiders. The head of the New York Stock Exchange said this summer that the pursuit of speed had gone too far. In debates with Mr. Saluzzi, some H.F.T. executives have agreed that the fragmentation of the markets is now doing more harm than good for investors. And after the breakdown at Knight Capital, the S.E.C. called for a round table on market technology; it will be held on Oct. 2.

BUT Mr. Arnuk and Mr. Saluzzi do not think that big change is on the way. For their part, they don't want to do away with computerized trading altogether — just the frantic developments of the last few years. “I don't want to go back to 1987, but 2004 wouldn't be so bad,” Mr. Arnuk says.

Their message has won them a following among many ordinary Americans who, rightly or wrongly, have concluded that the Wall Street game is rigged. Before heading out for Labor Day weekend, Mr. Arnuk opened one more example of fan mail — a letter from an Idaho man that also went to Senator Michael D. Crapo, an Idaho Republican.

The man wrote that the financial markets had become “treacherous waters” and suggested that the senator read “Broken Markets,” which, he wrote, “exposes our disgusting and corrupt market system today.”

Mr. Arnuk smiled. “That's going up on the wall,” he said. “I consider it a badge of honor.”

###