

BLOCKCHAIN FOR SECURITIES TRADING: BLACK SWAN OR IN-HOUSE PET?

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The Securities and Exchange Commission (SEC) has been assessing how to allow blockchain technology to be integrated into the regulatory landscape. A potpourri of market participants vies to influence this process. All agree changes are coming. Some would change securities trading and settlement in ways that would curb market abuse and level the playing field for investors, especially retail investors; while others are proposing changes that could steepen it.

The potential for blockchain technology to curb market abuse will likely turn on two factors: (i) the extent to which it distributes meaningful information to investors on specific securities; and (ii) at what stage (trading or settlement) it becomes operative. If blockchain technology widely distributes meaningful data to investors and kicks in when trades occur, it would significantly curb market abuse. If neither of these two factors occurs, the information gap for retail investors would grow and their playing field would steepen.

The 800-pound gorilla—the Depository Trust & Clearing Corporation (DTCC)—now lobbies for its own self-preservation.¹ It con-

tends blockchain should be used exclusively to *settle* trades (not execute them) and should only be accessible to those who understand the nuances of the fine-tuned machinery the DTCC operates.² According to the DTCC, only the SEC, the self-regulatory organizations (SROs), and DTCC itself should have access to the data.³ The approach would undermine the essence of blockchain and bring no transparency to a market desperately in need of it.

Several brokers now compete to create the first functioning alternative trading system (ATS) for real-time trading of securities over blockchain technology.⁴ An exchange giant also may be getting into the game. According to the Nasdaq, it “has taken advanced steps towards creating technology where accredited investors can trade securities through blockchain technology.”⁵

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Using blockchain for real-time trading could clean up the capital markets in ways that have eluded the SEC since its inception in 1934. The technology would stop some forms of market abuse, *e.g.*, naked short selling and late trading. Alternatively, by increasing transparency, blockchain would expose and thus deter other egregious forms of abuse, *e.g.*, insider trading, wash trades, front running, and spoofing. As Justice Louis D. Brandeis observed: “Sunlight is said to be the best of disinfectants; electric light the most efficient policeman.”⁶

Blockchain *is* a distributed ledger. As the number of investors who have access to the ledgers increases, so does the transparency of that market. As that transparency improves, the deterrence pressure grows stronger. Stronger deterrence means less market abuse. Less market abuse means more capital moving from those who have it to those who can put it to work. And that’s what capital markets are supposed to do.

Consider for a moment the impact of blockchain technology on insider trading. Overextended market surveillance units at the SEC and SROs scour the market for insider trading: big bets and price moves just before market-moving public announcements. Access to the distributed ledger would allow suspicious inves-

tors to look for the same patterns in the trades of their securities. If the SEC declines to bring an enforcement case, investors could bring a private civil action.⁷ In short, blockchain would make insider trading riskier and thus deter it.

By all appearances, the SEC will decide how to integrate blockchain technology behind closed doors. To be sure, the SEC has invited the DTCC and the financial industry to give their views on the subject.⁸ Unfortunately, the SEC has yet to hear from the market participant who has the most to lose: the retail investor.⁹ If this were a boxing match, the ring announcer might introduce the fighters: “Out of the red corner, weighing in at \$50 trillion, the undisputed heavyweight champion, the global banking system.” The fighter confidently waives a gloved hand to the crowd. “And in the blue corner, weighing in with her IRA contribution, and fighting way out of her weight class, the retail investor.”

One improbable factor could change the outcome of this fight: the nature of blockchain itself. It is a true black swan with alpha instincts. And this swan is on a mission. If it has its way, it would undermine and replace the global banking system. It has already begun doing exactly that—to the horror of the bank-

ing industry—to fiat currencies. This rare bird has now landed on Wall Street, and it plans to take over the way securities are traded. It instinctively views the DTCC as its enemy, even as the DTCC professes its love for the swan and hopes to soon cage it as a pet. (This sounds like King George’s love for the colonists in *Hamilton*.)

Before going further let’s dig a little deeper into the birth of the swan and the mission embedded into its DNA.

The Birth of a Black Swan Named Blockchain

Blockchain technology had the humblest of births. Neither Apple, nor Google, nor any other technology giant takes credit for it. No media covered the event. Rather, the birth was announced on November 1, 2008, when some person or persons using the pseudonym Satoshi *Nakamoto*¹⁰ published a whitepaper, “Bitcoin: A Peer-to-Peer Electronic Cash System,” to a *cryptography mailing list*,¹¹ a perfect birthplace for a black swan.

Nakamoto’s white paper linked two new concepts: (i) a “purely peer-to-peer version of electronic cash (Bitcoin)”; and *(ii) a blueprint of the technology (blockchain) to be used in creating Bitcoin. Though blockchain serves as the technology for Bitcoin, its use is not limited to Bitcoin. According to Forbes, “Its potential applications are limitless.”*¹²

“Blockchain is a trust machine,” Janet Liao, a Yale research scholar, explained at a meeting of the SEC’s Investor Advisory Committee¹³ in October. Blockchain creates that trust by distributing an immutable ledger of each transaction to those in the network. Ms. Liao cited an *Economist* article that explains the essence of Blockchain:

[I]t is a shared, trusted, public ledger that everyone can inspect, but which no single user controls. The participants in a blockchain system collectively keep the ledger up to date: it can be amended only according to

strict rules and by general agreement. Bitcoin’s blockchain ledger prevents double-spending and keeps track of transactions continuously. It is what makes possible a currency without a central bank.¹⁴

Since Nakamoto created blockchain to be a trust machine, an obvious question arises: what exactly did he distrust and why? Simply put, he distrusted the banks for creating the 2008 Financial Crisis. Consider the timing: Nakamoto published his white paper in October 2008, the height of the 2008 Financial Crisis. Three global investment banks had collapsed that year—Bear Stearns, Lehman Brothers and Merrill Lynch—and Morgan Stanley wobbled on the brink. That month, the UK unveiled its first bank bailout. Two months later, Nakamoto embedded a terse message into the first Bitcoin blockchain: “The Times 03/Jan/2009 Chancellor on brink of second bailout for banks”¹⁵ In February 2009, Nakamoto opined:

The root problem with conventional currency is all the trust that’s required to make it work. . . . Banks must be trusted to hold our money and transfer it electronically, but they lend it out in waves of credit bubbles with barely a fraction in reserve. . . .¹⁶

Nakamoto is saying the banks should be distrusted because they instinctively make themselves highly leveraged. He was spot-on. The report on the 2008 Financial Crisis by the U.S. Senate Permanent Subcommittee on Investigations identifies the banks’ massive leverage as a principal cause of the Crisis,¹⁷ just as it was for the 1929 Crash.¹⁸ Consider Bear Stearns’ 33-to-1 debt-to-equity ratio just before its collapse.¹⁹ Off the balance sheet, it had exposure to \$2.5 trillion worth of credit default swaps.²⁰

Nakamoto’s black swan has tapped into a power source. More than \$6.3 billion in initial coin offerings (ICOs) have been launched using blockchain technology since 2014, as illustrated by this interactive graphic.²¹ But even that growth seems anemic compared to the geometric growth of cryptocurrencies, which increased from \$8 billion in March 2016 to \$25 billion in March 2017, up 300%,²² and then leaped to

\$500 billion by mid-December 2017, up 2,000% in just 10 months.²³ In this light, *Harvard Business Review* predicts: “The blockchain will do to the financial system what the internet did to media.”²⁴

And now the swan sits perched upon the shoulders of the Wall Street bull. Just as blockchain is undermining the fiat currencies with \$500 billion in cryptocurrencies, it longs to do the same to securities trading and settling. That trading system burdens investors with the costs for two brokers, clearing brokers, clearing houses and the DTCC. And those are only the visible costs. Market abuse and conflicts of interests have embedded themselves into the very bones of this opaque system. And it’s been that way for a while. The brilliant prosecutor, Ferdinand Pecora, whose investigation led to the country’s two major securities acts, explained 77 years ago in *Wall Street under Oath*: “The public was always in the dark. It could not tell whether sales were merely due to the ‘free play of supply and demand,’ or whether they were the product of manipulated activities. . . . It all looks alike on the ticker.”²⁵

The issue then comes to this: Will blockchain pull the capital markets—now in full tantrum mode—into the sunshine?

The Black Swan Lands on Wall Street: Cage Him If You Can!

The DTCC would prefer to cage and domesticate this black swan—blockchain—as its in-house pet. The head of DTCC, Michael C. Bodson, testified before the SEC Investor Advisory Committee in October that blockchain should be used only for the settlement of trades (not trading itself), and the transaction ledger should only be distributed to the SEC, the DTCC and SROs.²⁶

Mr. Bodson agrees that blockchain could stop some forms of fraud, but only if the technology rests exclusively in the hands of the SEC. Specifically, he opined the SEC would have caught famed fraudster Bernie

Madoff before he executed his Ponzi scheme, if it had blockchain in place at the time.²⁷ Hmmm. Let’s ponder that.

Mr. Bodson overlooks the phenomenon that absorbed the media and Congress when Madoff’s story broke: The curious tale of Harry Markopolos. Mr. Markopolos pounded on the front door of the SEC five times, holding compelling evidence of Madoff’s fraud, but the SEC wasn’t listening.²⁸ The SEC also turned a deaf ear to the whistleblower who first disclosed that hedge funds were using late trading and market timing to siphon cash from retail investors’ mutual fund accounts.²⁹ The SEC did nothing until Elliot Spitzer, the New York Attorney General, made headlines by prosecuting the first late-trading case against Canary Capital, the ring leader. The SEC then clung to Mr. Spitzer’s coattails.³⁰ (By the way, this author also got straight-armed *inside* the SEC while leading an investigation of a hedge fund, its CEO, and Wall Street CEO for insider trading until two Senate committees stepped in.³¹)

Mr. Bodson also overlooks the SEC’s greatest debacle: failing to scrutinize the liquidity and solvency of five investment banks (Bear Stearns, Merrill Lynch, Lehman Brothers, Morgan Stanley and Goldman Sachs) after the SEC released the same banks from the net capital rule in 2004.³² SEC scrutiny was supposed to replace the net capital rule.³³ Over the next four years, the SEC dozed while the banks’ leverage soared towards the stratosphere,³⁴ as the SEC’s own inspector general found.³⁵ In March 2008, Bear collapsed due to overvalued mortgage-backed securities (MBS) and \$2.5 trillion in credit default swaps (CDS).³⁶ Lehman Brothers and Merrill Lynch followed on Bear’s heels. Morgan Stanley and Goldman Sachs were teetering on the brink when Congress felt compelled to spend hundreds of billions of dollars to bail out the banks.

The SEC should continue to exist and do its job, or course. But the economic stability of the capital

markets should not rest on the premise—the DTCC’s hope—that the SEC alone can prevent the next financial crisis. Only loans and bailouts measured in the *trillions* of dollars saved the banks and prevented a meltdown of the global financial markets. Going forward, the capital markets need a Plan B. Putting the distributed ledger in investors’ hands assures a level of transparency that would prevent or at least mitigate the next financial crisis. Using blockchain to trade, settle trades, and post transactions to clients’ accounts would make Madoff-style fraud impossible. Phantom stock cannot materialize from thin air onto a blockchain.

Speaking of phantom stock, that phenomenon also contributed to the 2008 financial crisis and helped push several investment banks over the cliff.³⁷ As discussed next, blockchain would also have made that impossible.

How Blockchain Would Stop Market Abuse: Naked Short Selling During the Crisis

Another type of fraud, usually referred to as “naked short selling,” deepened the 2008 Financial Crisis and could trigger the next one.³⁸ It occurs when a market player sells stock—either long or short—that he does not own and does not borrow. In essence, it is the sale of counterfeit stock. Naked short selling was likely a factor in the collapse of Bear Stearns,³⁹ Lehman Brothers⁴⁰ and the near collapse of Morgan Stanley.⁴¹ This author’s early article in this publication addressed in greater detail how naked short selling contributed to the 2008 Financial Crisis.⁴²

Until the 2008 Financial Crisis struck, only small cap and microcap public companies complained about naked short selling. This changed in 2008 when struggling investment banks came under attack. Traders hammered the big banks with naked short sales. On March 14, 2008, shareholders were holding 128% of Bear Stearns’ acknowledged float.⁴³ In Lehman’s case, there were 33 million shares of counterfeit stock.⁴⁴ A 2013 article co-written by two prominent economists

explains why the banks were especially vulnerable to naked short selling during the crisis.⁴⁵

The urgency ratcheted up after the three huge banks failed, leaving Morgan Stanley and Goldman Sachs teetering at the edge of the abyss. On September 17, 2008, *Barron’s* reported: “[T]he Securities & Exchange Commission’s head Christopher Cox is investigating naked short selling of shares of Morgan Stanley and Goldman Sachs after receiving calls from Morgan Stanley CEO John Mac [*sic*] about improper short-selling that was responsible for the stock’s nearly 30% decline today.”⁴⁶ The SEC responded by issuing emergency orders and amendments to Regulation SHO to stop naked short selling during the crisis.⁴⁷ After the bailouts saved the banks, a mystery emerged: Whose trades pushed the banks over the abyss and which brokers placed them?

Looking for answers, a journalist retained this author to submit a FOIA request and then file a civil action to obtain the SEC’s records of its investigations of anyone who placed the naked short sales of the five banks during the Crisis.⁴⁸ In its response, the SEC identified one administrative proceeding relating to the naked short selling of Lehman Brothers and Bear Stearns—it was against Merrill Lynch.⁴⁹ In short, just before its own collapse, Merrill helped push its brethren over the cliff.

But who else might have been involved? Three years after the crisis, the Financial Industry Regulatory Authority (FINRA) found that UBS had engaged in massive naked short sales from 2006 through 2011. UBS placed tens of millions of short sale orders of stock it did not own, had not borrowed, had not contracted to borrow, or had not tried to borrow. Sometimes UBS marked these trades as “short sales,” sometimes as “long sales.” It placed these trades for its own accounts and for more than 270 of its clients. In so doing, UBS found more than 30 different ways to commit tens of millions of violations of SEC Regulation SHO.⁵⁰ FINRA was never able to quantify

in dollars how much phantom stock UBS created. It offered a different measure: the “duration, scope and volume of [UBS’s trading violations] created a *potential for harm to the integrity of the market* (emphasis added).”⁵¹

UBS did not play this game alone. FINRA found that Credit Suisse engaged in the same violations at roughly the same scale.⁵² And the list of brokers FINRA has fined for naked short selling continues to grow: Newedge USA, \$9.5 million in 2013;⁵³ Merrill Lynch, \$6 million in 2014;⁵⁴ Deutsche Bank, \$1.4 million in 2015 for violations lasting more than 10 years;⁵⁵ StockCross Financial Services, Inc., \$800,000 in 2015 for 31/2 years of violations;⁵⁶ and Morgan Stanley, \$2 million in 2015.⁵⁷ The SEC fined Goldman Sachs \$15 million for its violations of Reg SHO.⁵⁸ In each case, the bank engaged in naked short selling during the Crisis, despite Reg SHO and the SEC emergency orders. This evidence suggests the banks were pushing each other over the cliff during the Crisis.

And the lack of transparency is stunning. It exists in every nook and cranny of the stock trading system as short sales pass through it. Despite the tens of millions of violations of Reg SHO admitted by UBS, FINRA never identified a single public company whose stock was devalued by those violations. Nor did it identify any of UBS’s 270 clients who profited by their naked short sales. In view of the potential harm “to the integrity of the market,” it’s puzzling why FINRA opted to keep this information secret.⁵⁹

Very simply, blockchain would nip short selling before it could bud. As a Nasdaq executive put it: “Immediate settlement would make naked short selling impossible.”⁶⁰ If the asset does not appear on the blockchain, it cannot be sold.⁶¹

An analysis of how blockchain would curb other forms of market abuse goes beyond the scope of this article. But two general observations can be made. First, integrating blockchain technology into the real-

time trading of securities would likely prevent some forms of market abuse, *e.g.*, both naked shorts and late trading. Second, the transparency blockchain brings to the markets would light up virtually every other form of market abuse, *e.g.*, insider trading, wash sales, spoofing and front running.

[At press time, TZero has partially completed a \$250 million token sale to create an “SEC-compliant” alternative trading system using blockchain with the goal of curbing market abuse, including naked short selling. A later article on this same subject will provide an update on the TZero project.]⁶²

When Worlds Collide: the DTCC and Blockchain Trading

The DTCC *centralizes* control over the purchase and sale of securities. Blockchain technology *decentralizes* control through a distributed ledger. And there lies an irreconcilable conflict between the two. For blockchain technology to bring transparency to the securities markets, it must replace the existing system, be integrated into to it, or operate outside of it. It is safe to say the DTCC won’t voluntarily agree to changes that would make it obsolete. Nor could blockchain bring transparency to the markets as an appendage to DTCC’s existing system.

Two basic models have incorporated blockchain technology into the trading of securities. One public company has registered stock under Form S-3 which it claims will trade over an SEC-compliant ATS.⁶³ This bold approach enters the territory where the 800-pound gorilla usually roams.

The second approach would operate outside the gorilla’s customary territory, but still close enough that it might trigger its territorial instincts. Under this model, unregistered securities would be placed through an exemption to the Securities Act and would later trade through another exemption over an ATS, *e.g.*, the safe harbor created by Section 4(a)(7) of the Securities Act. At least two serious players are going down this path.⁶⁴

This last model could be the one where blockchain technology becomes disruptive to the existing system for trading securities. By using blockchain technology, the ATS and the brokers could truthfully claim their market for unregistered securities to be more transparent than the one controlled by the DTCC for registered securities. This could tap into the public's distrust of the banks, since the DTCC and its members look like a central bank and its members. If this model gets traction, the Nasdaq is primed to join the competition.⁶⁵ Once the blockchain trading machinery functions smoothly with unregistered securities, its leap to registered securities would be inevitable and so would the transparency it promises.

Another dynamic now encourages all securities professionals to consider this model in bringing an ICO to the market. A host of ICOs have been launched on the theory that they were not securities under *SEC v. W.J. Howey*.⁶⁶ Beginning with its report on one such ICO, called the DAO, last July,⁶⁷ the SEC has strictly applied *Howey* in assessing whether "utility tokens" placed through ICOs were unregistered.⁶⁸ More recently SEC Chairman Jay Clayton spoke to this practice: "Tokens and offerings that incorporate features and marketing efforts that emphasize the potential for profits based on the entrepreneurial or managerial efforts of others continue to contain the hallmarks of a security under U.S. law."⁶⁹ And then came this bomb in bold print: "**On this and other points where the application of expertise and judgment is expected, I believe that gatekeepers and others, including securities lawyers, accountants and consultants, need to focus on their responsibilities.**"⁷⁰ It might be prudent for securities attorneys to interpret this message with its bold font and reference to "gatekeepers" as a warning of possible disciplinary proceedings under the Sarbanes-Oxley Act against attorneys who violate the guidelines in the chairman's statement.⁷¹

This means securities attorneys designing ICOs which will trade as securities in secondary sales must

comply by either (i) a public offering with re-sales over an SEC-compliant ATS or exchange; or (ii) the placement and re-sale of unregistered securities under exemptions to the Securities Act. The second may be the path of least resistance and thus the pathway for blockchain to disrupt the existing trading system and bring transparency to markets in need of it.

ENDNOTES:

¹See webcast of Meeting of the SEC Investor Advisory Comm., Oct. 12, 2017, available at https://www.sec.gov/video/webcast-archive-player.shtml?document_id=101217iac. On behalf of the DTCC testified Michael C. Bodson, its President and Chief Executive Officer. Mr. Bodson's testimony starts at 44' 50."

²*Id.*, at 54' 25."

³*Id.*

⁴See Overstock.com press release dated Sep. 27, 2017, at <https://globenewswire.com/news-release/2017/09/27/1133646/0/en/ICO-Market-Transformed-by-ATS-Security-Token-Joint-Venture-Forged-by-tZ-ERO-RenGen-and-the-Argon-Group.html>. FINOM contemplates the initial placement of securities pursuant to Regulation D and, after the one-year holding period, the trading of the securities over an ATS pursuant to the limitations of Section 4(a)(7) of the Securities Act of 1933. FINOM White Paper, *DNA of New Finance*, at 6, available at https://finom.io/files/whitepaper_eng.pdf?ver=1.4.

⁵Testimony of Fredrik Voss, Vice President, Blockchain Innovation, Nasdaq, before SEC Investor Advisory Comm., *supra*, n. 1 at 1 h. 1' 25."

⁶Louis D. Brandeis, 1914, *Other People's Money and How the Bankers Use It*. Frederick A. Stokes Company: New York. Originally published in Harper's Weekly, p. 92.

⁷Jonathan D. Glater, *Oracle's Chief in Agreement to Settle Insider Trading Lawsuit*, NYTimes.com, Sep. 12, 2005, available at <http://www.nytimes.com/2005/09/12/technology/oracles-chief-in-agreement-to-settle-insider-trading-lawsuit.html>.

⁸*Supra*, n. 1.

⁹The SEC has held two hearings in relation to the integration of blockchain technology into the regulatory system. See Oct. 12, 2017, SEC Investor Advisory Comm. Meeting, *supra*, n. 1. See also Transcript

of SEC Fintech Forum: The Evolving Fin. Marketplace, Nov. 16, 2016, available at <https://www.sec.gov/spotlight/fintech/transcript-111416.pdf>.

¹⁰"Satoshi Nakamoto" is a pseudonym for an unknown person or persons who published the white paper. This article will refer to the author as Satoshi Nakamoto, a male.

¹¹See <http://satoshi.nakamotoinstitute.org/emails/cryptography/1/> and <http://www.metzdowd.com/mailman/listinfo/cryptography>.

¹²Bernard Marr, *How Blockchain Technology Could Change the World*, Forbes.com, May 27, 2016, available at <https://www.forbes.com/sites/bernardmarr/2016/05/27/how-blockchain-technology-could-change-the-world/3/#46dffa8e5be1>.

¹³Janet Liao is Assoc. Research Scholar in Law and the John R. Raben/Sullivan & Cromwell Exec. Dir. at the Yale Law School Center for the Study of Corporate Law. In her presentation during the Oct. 12, 2017, SEC Investor Advisory Comm. Meeting (*supra*, n. 1), Ms. Liao quoted from *The Trust Machine*, Economist.com, Oct. 31, 2015, available at <https://www.economist.com/news/leaders/21677198-technology-behind-bitcoin-could-transform-how-economy-works-trust-machine> for her reference to blockchain as a trust machine. See her slides at <https://www.sec.gov/spotlight/investor-advisory-committee-2012/slides-nancy-liao-brief-intro-to-blockchain-iac-101217.pdf>.

¹⁴*Id.*

¹⁵See <http://imgur.com/pGYXHJh>.

¹⁶See <http://satoshi.nakamotoinstitute.org/quotes/banks/>.

¹⁷U.S. Senate, Permanent Subcom. on Investigations, Wall Street and The Fin. Crisis: Anatomy of a Fin. Collapse: Majority and Minority Staff Report 7-11, 318-625 (April 13, 2011), available at http://www.hsgac.senate.gov/imo/media/doc/Financial_Crisis/FinancialCrisisReport.pdf?attempt=2.

¹⁸John Kenneth Galbraith, *The Great Crash 1929*, Chapters III and VI (1997).

¹⁹See Bear Stearns' 2007 Annual Report to Stockholders for the period ending Nov. 30, 2007, available at <https://www.sec.gov/Archives/edgar/data/777001/000091412108000077/be11750956-ex13.txt>.

²⁰Paul Wallis, *Multi Trillion Dollar Near Miss: Bear Stearns Could Have Caused Real Crisis*, digitaljournal.com, Apr. 3, 2008, available at <http://www.digitaljournal.com/article/252634>.

²¹Interactive graphic created by Max Galka of

elementus.io. <https://elementus.io/blog/token-sales-visualization/>.

²²G. Hileman, M. Rauchs, Global Cryptocurrency Benchmarking Study, Cambridge Centre for Alternative Finance, 2017, available at https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2017-global-cryptocurrency-benchmarking-study.pdf.

²³Charles Bovaird, *Crypto Market Value Surpasses \$500 Billion As Interest Surges*, Forbes.com, Dec. 12, 2017, available at <https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/cbovaird/2017/12/12/crypto-market-value-surpasses-500-billion-as-interest-surges/&refURL=&referrer=#1e7b24173067>.

²⁴Joichi Ito, Neha Narula, and Robleh Ali, *The Blockchain Will Do to the Financial System What the Internet Did to Media*, Harvard Business Review, Mar. 9, 2017, available at <https://hbr.org/2017/03/the-blockchain-will-do-to-banks-and-law-firms-what-the-internet-did-to-media>.

²⁵Ferdinand Pecora, *Wall Street under Oath: The Story of Our Modern Money Changers*, at 266.

²⁶*Supra*, n. 1.

²⁷*Id.*, at 1 h. 43.'

²⁸H. Markopolos, *No One Would Listen: A True Financial Thriller*, at 234, Wiley (2010).

²⁹Peter Elkind, Christopher Tkaczyk and Doris Burke, *The Secrets of Eddie Stern If you think you know how bad the mutual fund scandal is, you're wrong. It's worse*, Fortune.com, Apr. 19, 2004, available at http://archive.fortune.com/magazines/fortune/fortune_archive/2004/04/19/367348/index.htm.

³⁰SEC Press Release, Attorney General Spitzer and SEC File Charges against Bank of America Broker, Sep. 16, 2003, available at <https://www.sec.gov/news/press/2003-117.htm>.

³¹U.S. Senate Committee on the Judiciary and US Senate Finance Committee, *The Firing of an SEC Attorney and the Investigation of Pequot Capital Management*, S. Rpt. 110-28, August 2007; available at http://aguirrelawapc.com/global_pictures/Attachment_9.pdf.

³²Lee A. Pickard, *Viewpoint: SEC's Old Capital Approach Was Tried—and True*, Americanbanker.com, Aug. 8, 2008, available at <https://www.americanbanker.com/news/viewpoint-secs-old-capital-approach-was-tried-and-true>.

³³*Id.*

³⁴*Id.*

³⁵SEC OIG, *SEC's Oversight of Bear Stearns and Related Entities: The Consolidated Supervised Entity Program*, Report No. 446-A, Sep. 25, 2008, available at <https://www.sec.gov/files/446-a.pdf>.

³⁶Paul Wallis, *Multi Trillion Dollar Near Miss: Bear Stearns Could Have Caused Real Crisis*, digitaljournal.com, Apr. 3, 2008, available at <http://www.digitaljournal.com/article/252634>.

³⁷Gary Aguirre, *A Tale of Two Frauds: Part II, Naked Shorting Since the Financial Crisis: Regulators' Little Secret*, Wall St. Lawyer, (Oct. 2013, Vol. 17, No. 10), available at https://aguirrelawapc.com/global_pictures/A_Tale_of_Two_Frauds_Part_II.pdf.

³⁸*Id.*

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⁴⁰*Id.*

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⁴²*Supra*, n. 37.

⁴³Helen Avery, *US Equity Market—Short Selling: The Naked Truth*, Euromoney, Dec. 2008.

⁴⁴Matsumoto, *supra*, n. 39.

⁴⁵Markus K. Brunnermeier & Martin Oehmke, *Predatory Short Selling 3* (2013), Princeton University Press, available at <http://scholar.princeton.edu/markus/files/Predatory%20Short%20Selling.pdf>.

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⁴⁷*Amendments to Regulation SHO*, SEC Release No. 34-58775, 2008 SEC LEXIS 2319 (Oct. 14, 2008) at 10-11.

⁴⁸See https://aguirrelawapc.com/global_pictures/Mitchell_Lawsuit_Release.pdf.

⁴⁹See https://aguirrelawapc.com/global_pictures/Bear_Stearns_Lehman_crisis_shorts.pdf.

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⁵³See <http://online.wsj.com/public/resources/documents/FINRA.pdf>.

⁵⁴See <http://www.finra.org/newsroom/2014/finra-fines-merrill-lynch-total-6-million-reg-sho-violations-and-supervisory-failures>.

⁵⁵See <http://www.finra.org/newsroom/2015/finra-fines-deutsche-bank-securities-inc-14-million-violating-reg-sho-and-reporting>.

⁵⁶See <http://www.finra.org/newsroom/2015/finra-fines-stockcross-financial-services-inc-800000-regulation-sho-violations>.

⁵⁷See <http://www.finra.org/newsroom/2015/finra-fines-morgan-stanley-2-million-short-interest-reporting-and-short-sale-rule>.

⁵⁸See <http://www.thinkadvisor.com/2016/01/14/goldman-fined-15m-by-sec-over-reg-sho-violations>.

⁵⁹*Supra*, n. 48.

⁶⁰Mr. Voss (*supra*, n. 5) told the author that “immediate settlement would make naked short selling impossible.” He also added “this is not predicated (but simplified) by the use of blockchain.”

⁶¹Legitimate market makers could be exempted from the ban on short sales, but any broker acting in that capacity could be required to code the transactions which light up the transaction for scrutiny.

⁶²See “Capital markets foe seeks an end run via blockchain”, Brian Patrick Eha; American Banker, Jan. 5, 2018, available at <https://www.americanbanker.com/news/overstock-ceo-patrick-byrne-explains-rationale-for-250m-ico>.

⁶³See Overstock.com press release, *supra*, n. 4.

⁶⁴*Supra*, n. 4. See also Templum Press Release of Oct. 4, 2017, available at <https://www.prnewswire.com/news-releases/templum-and-liquid-m-capital-to-launch-regulated-platform-for-initial-coin-offerings-300530885.html>.

⁶⁵*Supra*, n. 5.

⁶⁶*S.E.C. v. W.J. Howey Co.*, 328 U.S. 293, 66 S. Ct. 1100, 90 L. Ed. 1244, 163 A.L.R. 1043 (1946).

⁶⁷SEC, *Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO*, Release No. 81207, July 25, 2017, available at

<https://www.sec.gov/litigation/investreport/34-81207.pdf>.

⁶⁸See Press Release, Company Halts ICO After SEC Raises Registration Concerns (Dec. 11, 2017), available at <https://www.sec.gov/news/press-release/2017-227>; Press Release, SEC Emergency Action Halts ICO Scam (Dec. 4, 2017), available at <https://www.sec.gov/news/press-release/2017-219>; Press Release, SEC Exposes Two Initial Coin Offerings Purportedly Backed by Real Estate and Diamonds (Sept. 29, 2017), available at <https://www.sec.gov/news/press-release/2017-185-0>.

⁶⁹See <https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11>.

⁷⁰*Id.*

⁷¹Gary O. Cohen, *Gatekeeper Liability of Inside Asset Management Attorneys “Appearing” Before the SEC*, *The Investment Lawyer*, (Sep. 2015, Vol. 22, No. 9), available at <https://www.carltonfields.com/files/Uploads/Documents/Articles/gatekerrp-liability-of-inside-asset-management-attorneys-appearing-before-the-sec.pdf>.