

TRACING THE INVISIBLE: SECTION 11'S TRACING REQUIREMENT AND BLOCKCHAIN

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When the Securities Act of 1933 was enacted, investors were shell-shocked from the aftermath of the Wall Street Crash of 1929 and demanded a check on corporate over-speculation. One of the most powerful checks the new legislation imposed was embodied in Section 11—imposing virtual strict liability for a wide range of corporate actors for their roles in drafting a misleading registration statement. Because of its harsh penalties, courts limited the availability of Section 11 to plaintiffs, especially through the recognition of a “tracing” requirement. This tracing requirement is especially potent due to the practice of holding stocks in a fungible bulk without identifying the origin of such stock.

This Note argues that the debate surrounding tracing and Section 11 can be settled by recording the ownership of public securities through the use of blockchain. Blockchain is a promising technology that has captured the imaginations of the finance industry in recent years. The technology’s application to securities can bring about a more efficient market and effectuate the purpose of Section 11 without subjecting companies to frivolous strike suits.

INTRODUCTION	146
I. A (NOT SO) BRIEF AND WONDROUS HISTORY OF SECTION 11	148
A. <i>Section 11 in a Nutshell</i>	149
B. <i>Eighty Years of Section 11 Jurisprudence</i>	151
II. A MARKET FOR LEMONS – STRUCTURAL ROADBLOCKS AND POTENTIAL SOLUTIONS	154
A. <i>How the DTC Frustrates Section 11 Plaintiffs</i>	155
B. <i>Rule 144 as an Exclusionary Strategy</i>	157
C. <i>Proposed Solutions to the Tracing Problem</i>	158

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1. Restrict Standing to Direct Purchasers.....	158
2. Process Improvements	158
3. Statistical Tracing	159
III. BLOCKCHAIN: CERTAINTY IN AN UNCERTAIN WORLD	160
A. <i>New Kid on the Block(chain)</i>	161
1. ACH: An Impetus for Bitcoin.....	161
2. A Brief Introduction to Blockchain via Bitcoin	162
B. <i>Blockchain: FinTech's New Golden Child</i>	164
C. <i>A Hammer for Tracing's Nail</i>	167
1. SEC Regulation.....	167
a. <i>The Specter of Decimalization</i>	168
2. Market Forces	169
a. <i>Insider Trading</i>	170
b. <i>Empty Voting</i>	170
CONCLUSION.....	173

INTRODUCTION

When Facebook went public in 2012, it was considered to be the most closely watched initial public offering (IPO) since Google's IPO in 2004.¹ The social network that captured America's hearts, minds, and free time was primed to explode and the media was giddy—going so far as to label 2012 “the year of Facebook.”² With a \$104 billion valuation and the whole world watching, Mark Zuckerberg and his colleagues were ready to reap the rewards of Facebook's rapidly growing popularity.³ On May 18, 2012, the hoodie-clad billionaire rang the opening bell for NASDAQ and Facebook shares hit the open market at thirty-eight dollars a share.⁴ Following a series of glitches that stalled trading for two hours, Facebook failed to make a substantial increase in share price and closed only twenty-three cents above where it opened.⁵ Morgan Stanley, the IPO's underwriter, stepped in and began buying back available shares to drive demand for Facebook's stock, but it was too late to stop the

1. *Facebook IPO: Social Network Makes Stock Market Debut*, GUARDIAN: TECH. BLOG (May 18, 2012, 8:30 AM), <https://www.theguardian.com/technology/2012/may/18/facebook-ipo-stock-market-live> [<https://perma.cc/6K2H-LLLF>] [hereinafter *Facebook IPO*].

2. Maureen Farrell, *IPOs 2012: Friending Facebook*, CNN: MONEY (Jan. 5, 2012, 7:55 AM), http://money.cnn.com/2012/01/05/markets/facebook_ipo_2012_outlook [<https://perma.cc/99T3-42MR>].

3. *Facebook IPO*, *supra* note 1.

4. Khadeeja Safdar, *Facebook, One Year Later: What Really Happened in the Biggest IPO Flop Ever*, ATLANTIC (May 20, 2013), <https://www.theatlantic.com/business/archive/2013/05/facebook-one-year-later-what-really-happened-in-the-biggest-ipo-flop-ever/275987> [<https://perma.cc/RN5Q-HA9R>].

5. *Id.*

bleeding.⁶ By August 31, Facebook's shares had slumped to \$18.15—meaning that the company had declined in value by over \$50 billion in less than three months.⁷ Within days of the ill-fated IPO, slighted investors began demanding answers and class action lawsuits were quickly filed against Facebook, NASDAQ, and the offering's lead underwriter, Morgan Stanley.⁸ As the dust from the disastrous IPO settled, it was revealed that Facebook had slashed its earnings outlook less than a week before the offering and failed to revise its Form S-1 to fully reflect the gloomier outlook.⁹ Further, it was discovered that Morgan Stanley passed along the altered earnings information to only a few key investors and defended the practice as "standard operating procedure."¹⁰ Ultimately, Morgan Stanley settled allegations of fraud from Massachusetts regulators for \$5 million,¹¹ NASDAQ settled a class action against it for \$26.5 million¹² and paid a \$5 million fine to the Securities and Exchange Commission (SEC),¹³ and the massive investor class action against Facebook still rages at the time of writing.¹⁴ In the ongoing class action, the company is alleged to have violated, among other provisions of American securities law, Section 11 of the Securities Act of 1933.¹⁵

Section 11 jurisprudence has fluctuated wildly in the decades since its inception.¹⁶ Very few courts have agreed on whether potential plaintiffs have standing under the section and have struggled to find a way to effectuate Section 11's purpose as an enforcement tool while nonetheless minimizing the potential for frivolous "strike" suits.¹⁷ As a result of this need to balance public and corporate interests, courts have articulated the requirement that

6. Shayndi Raice, Ryan Dezember & Jacob Bunge, *Facebook's IPO Sputters*, WALL ST. J. (May 18, 2012, 9:27 PM), <https://www.wsj.com/articles/SB10001424052702303448404577411903118364314> [<https://perma.cc/C4KF-F4WH>].

7. Frederic Lardinois, *Facebook Stock Hits a New Low, Now Down More Than 50% Since IPO*, TECHCRUNCH (Aug. 31, 2012), <https://techcrunch.com/2012/08/31/facebook-stock-hits-a-new-low-now-down-more-than-50-since-ipo/> [<https://perma.cc/A74Y-JPWF>].

8. Safdar, *supra* note 4.

9. *Id.*

10. Jennifer Dauble, *CNBC Exclusive: CNBC Transcript: CNBC's Maria Bartiromo Speaks with James Gorman, Morgan Stanley Chairman & CEO, on CNBC's "Closing Bell with Maria Bartiromo" Today*, CNBC (May 31, 2012, 6:34 PM), <https://www.cnn.com/id/47477544> [<https://perma.cc/PYC3-DURT>].

11. Steve Schaefer, *Morgan Stanley Hit With \$5 Million Fine Over Facebook IPO*, FORBES (Dec. 17, 2012, 8:00 PM), <http://www.forbes.com/sites/steveschaefer/2012/12/17/morgan-stanley-hit-with-5-million-fine-over-facebook-ipo-by-massachusetts/#5ea8b7301c39> [<https://perma.cc/2X8A-RQTJ>].

12. John McCrank, *Nasdaq to settle Facebook IPO Lawsuit for \$26.5 million*, REUTERS (Apr. 23, 2015, 6:47 AM), <http://www.reuters.com/article/us-nasdaq-omx-facebook-litigation-idUSKBN0NE1FD20150423> [<https://perma.cc/FC45-X24U>].

13. Press Release, SEC, SEC Charges NASDAQ for Failures During Facebook IPO (May 29, 2013), <https://www.sec.gov/news/press-release/2013-2013-95htm> [<https://perma.cc/R5N9-4VC2>].

14. *See In re Facebook, Inc.*, 986 F. Supp. 2d 487 (S.D.N.Y. 2013) (determining that the consolidated class action suit against Facebook should be allowed to proceed).

15. *Id.* at 493.

16. *See* discussion *infra* Part I.

17. *See* discussion *infra* Parts I, II.B.

plaintiffs be able to definitively trace all of their shares to a specific stock offering in order to have standing under Section 11.¹⁸

Although the complicated administration of securities ownership has always presented difficulties for Section 11 plaintiffs attempting to trace their shares,¹⁹ the formation of the Depository Trust Company (DTC) in the 1970's made the process virtually impossible for any aftermarket purchasers.²⁰ Part II examines the specific methods that the DTC utilizes to hold and distribute shares that make Section 11 tracing so difficult—namely the holding of a broker-dealer's shares as a "fungible bulk"²¹—and looks to potential solutions proposed by various legal scholars. These proposed solutions include eliminating tracing completely,²² or excluding all aftermarket purchasers from having standing to bring a Section 11 claim.²³

In Part III, I introduce the fairly recent development of bitcoin and its underlying blockchain technology, arguing that the adoption of blockchain as a tool for the administration of securities provides a solution to the Section 11 tracing problem. A blockchain-based registry would maintain a balance between public and corporate interests as it would preserve the rights of Section 11 plaintiffs who have purchased shares subject to an allegedly misleading registration statement, but would not expand a potential class to dubious claimants who want to take advantage of Section 11's more plaintiff-friendly liability standards.²⁴ Next, I examine two potential catalysts that could facilitate the widespread adoption of blockchain in securities administration—a government-imposed regulatory scheme or market forces responding to the technology's usefulness. I further argue, with the caveat that some form of industry-wide standardization will be needed (the potential form of which is beyond the scope of this Note), that the corporate governance benefits of a blockchain-based securities registry are compelling enough to motivate corporations to adopt the technology without an explicit SEC mandate.

I. A (NOT SO) BRIEF AND WONDROUS HISTORY OF SECTION 11

Although the crash of the American stock market in 1929 and the resulting Great Depression necessitated some kind of government

18. *Barnes v. Osofsky*, 373 F.2d 269, 273 (2d Cir. 1967) (holding that an action under § 11 of the Securities Act could only be maintained by those within a narrow class).

19. *Id.* at 271.

20. Joseph A. Grundfest, Morrison, *The Restricted Scope of Securities Act Section 11 Liability, and Prospects for Regulatory Reform*, 41 J. CORP. L. 1, 17–18 (2015).

21. *Id.*

22. Hillary A. Sale, *Disappearing Without a Trace: Section 11 and 12(a)(2) of the 1933 Securities Act*, 75 WASH. L. REV. 429, 492 (2000).

23. Paul C. Curnin & Christine M. Ford, *The Critical Issue of Standing Under Section 11 of the Securities Act of 1933*, 6 FORDHAM J. CORP. & FIN. L. 155, 188 (2001).

24. See discussion *infra* Part III.

intervention, friction between the newly imposed securities regulation scheme and the desire to nurture a thriving economy became evident following World War II.²⁵ Section A of this Part provides an overview of Section 11 of the Securities and Exchange Act of 1934. Section B of this Part then examines the development of Section 11 jurisprudence in order to examine the aforementioned regulatory/free-market tension and to establish where the section's interpretation stands today.

A. *Section 11 in a Nutshell*

A brief mention of the Great Depression is warranted with any issue that involves American securities law. The "Great Crash" devastated Wall Street in October 1929 with a fiscal impact that has been estimated to be roughly equivalent to what the United States spent on World War I.²⁶ The crash prompted Congress to pass the Securities Act of 1933 ('33 Act) and the subsequent Securities and Exchange Act of 1934 ('34 Act) in hopes of corralling the wildly speculative and volatile stock market.²⁷ The two pieces of legislation are traditionally thought to apply to investors who buy directly from an issuer ('33 Act) and to those who acquire shares in the secondary market ('34 Act).²⁸

One provision that has proven to be among the more controversial aspects of the '33 Act is Section 11.²⁹ Section 11 applies a strict liability standard to issuers whose registration statements "[contain] an untrue statement of a material fact or [omit] to state a material fact required to be stated therein or necessary to make the statements therein not misleading."³⁰ That liability extends to every person that signed the registration statement: the issuer's directors, each underwriter involved with the offering, and every professional who assisted in the statement's preparation.³¹ Section 11 allows a plaintiff to recover damages equal to,

the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and (1) the value thereof as of the time such suit was brought, or (2) the price at which such security shall have been disposed of in the market before suit, or (3) the price at which

25. JOEL SELIGMAN, *THE TRANSFORMATION OF WALL STREET: A HISTORY OF THE SECURITIES AND EXCHANGE COMMISSION AND MODERN CORPORATE FINANCE* 1–38 (3d ed. 2003).

26. GORDON THOMAS & MAX MORGAN-WITTS, *THE DAY THE BUBBLE BURST: A SOCIAL HISTORY OF THE WALL STREET CRASH OF 1929* 402–03 (1979).

27. *Id.*

28. *In re Adams Golf, Inc.*, 176 F. Supp. 2d 216, 224 (D. Del. 2001).

29. ALAN R. PALMITER, *EXAMPLES & EXPLANATIONS FOR SECURITIES REGULATION* § 6.3 (7th ed. 2017).

30. 15 U.S.C. § 77k(a) (2012).

31. *Id.*

such security shall have been disposed of after suit but before judgment if such damages shall be less than the damages representing the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and the value thereof as of the time such suit was brought.³²

Section 11 has been a legal cause *célèbre* for decades due to the fact that it applies a strict-liability standard and lacks a scienter requirement.³³ As a result, the statute is seen as one of the most investor-friendly remedies in securities law.³⁴ Plaintiff-side securities litigators view Section 11 as a bulwark against “fraud and corporate corruption”³⁵ whereas many corporate defense lawyers deride it as enabling frivolous and costly lawsuits.³⁶

In the many years since its inception, Section 11’s effectiveness has gradually waned as a result of a succession of legal opinions that have narrowed the scope of the shareholders who can avail themselves of Section 11’s protections. For a time, various circuits disagreed over whether Section 11 applied to investors who purchased their shares directly from an issuer or rather to all investors who acquired shares issued under a faulty registration statement, whether from a broker or directly from the issuer.³⁷ Although the latter view prevailed, which normally would have the effect of expanding the size of potential classes of litigants, courts have also read a “tracing” requirement into Section 11 which counteracted that expansion.³⁸ The judicially-created tracing requirement sought to strike a balance between the public and corporate interests by allowing all investors who were misled by reliance on a faulty registration statement to sue under the provision, but with the caveat that they be able to trace all of their shares to that flawed statement.³⁹ Although the practice may sound simple in theory, the complexity of the mechanics behind the administration of publicly traded stocks makes tracing nearly impossible for all investors aside from those who are fortunate enough to purchase their shares directly from an underwriter.⁴⁰ Before one can analyze the virtually insurmountable hurdle presented by tracing, one must

32. *Id.* § 77k(e).

33. Curnin & Ford, *supra* note 23, at 155, 191.

34. Sale, *supra* note 22, at 434.

35. Marc I. Steinberg & Brent A. Kirby, *The Assault on Section 11 of the Securities Act: A Study in Judicial Activism*, 63 RUTGERS L. REV. 1, 3 (2010).

36. Boris Feldman, *A Modest Strategy for Combatting Frivolous IPO Lawsuits*, HARV. L. SCH. F. ON CORP. GOVERNANCE AND FIN. REG. (Mar. 13, 2015), <https://corpgov.law.harvard.edu/2015/03/13/a-modest-strategy-for-combatting-frivolous-ipo-lawsuits> [https://perma.cc/79SF-XS63].

37. *Wolfson v. Solomon*, 54 F.R.D. 584, 588 (S.D.N.Y. 1972).

38. Feldman, *supra* note 36.

39. *Barnes*, 373 F.2d at 273.

40. Sale, *supra* note 22, at 469.

understand the historical interpretation of Section 11 and the development of the tracing requirement.

B. Eighty Years of Section 11 Jurisprudence

Following the passage of the '33 and '34 Acts, Section 11 lawsuits began to test the textual limits of the provision. A string of opinions, most notably *Fischman v. Raytheon Manufacturing Co.*, introduced the idea of tracing and held that Section 11 was only a remedy for those who had proper standing—meaning plaintiffs must have purchased their securities under the registration statement in question.⁴¹ At the time, there was no dispute as to whether it extended to investors who had acquired their shares either directly from the issuer or through a broker or private individual, commonly known as the secondary market or aftermarket.⁴² Tracing began to take a more concrete form in 1967 with the *Barnes v. Osofsky* decision.⁴³ In that case, the court ruled that Section 11 claimants could participate in a settlement agreement only if they could clearly prove that their shares were issued under the erroneous registration statement.⁴⁴ Those who could not accurately trace their shares appealed the decision and argued that,

[I]t is often impossible to determine whether previously traded shares are old or new, and that tracing is further complicated when stock is held in margin accounts in street names since many brokerage houses do not identify specific shares with particular accounts⁴⁵

Despite seeming to affirm the validity of the appellants' argument in dicta,⁴⁶ the Second Circuit nonetheless held that the tracing requirement was valid and reasoned that in light of Section 11's "stringent penalties," the provision's remedies should be limited to "the particular shares registered."⁴⁷ Although that interpretation is arguably in line with what the original drafters intended,⁴⁸ the appellants illuminated a flaw in Section 11's application. With the requirement of tracing, the vast majority of investors were now precluded from utilizing one of the most powerful anti-corruption weapons in American securities law. *Osofsky* also reiterated that Section 11 would remain a cause of action for aftermarket purchasers

41. *Fischman v. Raytheon Mfg. Co.*, 188 F.2d 783, 786 (2d Cir. 1951).

42. Brian Murray, *Aftermarket Purchaser Standing Under § 11 of the Securities Act of 1933*, 73 ST. JOHN'S L. REV. 633, 637 (1999).

43. *Barnes*, 373 F.2d at 272.

44. *Id.*

45. *Id.*

46. *Id.* at 273 ("Without depreciating the force of appellants' criticisms that this construction gives § 11 a rather accidental impact . . .").

47. *Id.* at 272.

48. *Lee v. Ernst & Young, LLP*, 294 F.3d 969, 976–78 (8th Cir. 2002).

as the court stated that Section 11 remedies would be “accorded to purchasers regardless of whether they bought their securities at the time of original offer or at some later date.”⁴⁹

In a challenge to *Osofsky's* confirmation of tracing, the plaintiffs in *Kirkwood v. Taylor* presented four alternative methods of tracing in the hopes of preserving the corrective powers of Section 11, including: (1) direct trace, (2) fungible mass, (3) contrabroker, and (4) heritage.⁵⁰ Under the fungible mass method, plaintiffs could trace their shares through a statistical method that looked to the DTC, the organization established in 1973 to alleviate the administrative nightmare of settling trades with paper certificates, and its practice of holding stock.⁵¹ The DTC held all of a company's shares in one pool, or fungible mass, without any record of what offering the shares came from or what individual shareholder each share belonged to.⁵² The plaintiffs argued that if they could show that 25% of all shares in the fungible mass were shares issued under the litigated registration statement, then they should have standing for the proportional amount of damages.⁵³ The U.S. District Court for the District of Minnesota rejected this broad approach as it believed that the method did not comport with the lax standards for liability of Section 11.⁵⁴ The contrabroker method was proposed to allow for plaintiffs to satisfy tracing if they could show that they purchased their shares from a broker who had in turn purchased those shares from an underwriter of the offering.⁵⁵ The court rejected this approach as well, stating that the method still left some uncertainty as to whether *all* the shares were issued under the same registration statement and held that the contrabroker methodology only shows whether the plaintiff “‘might’ have purchased offering shares.”⁵⁶ The heritage method was held to be the most complicated of the four offered as it looked to the plaintiffs' certificates and matched them with the applicable state's stock transfer agent's records as a way to try and follow them to the original offering.⁵⁷ Again, the court rejected this as it was far from certain.⁵⁸ Ultimately, the *Kirkwood* court found the direct trace method to be the only one compatible with the broad liability imposed by Section 11.⁵⁹ Direct trace, as defined in *Kirkwood*, is the simplest method as it only includes “stock [that] is directly

49. *Barnes*, 373 F.2d at 273.

50. *Kirkwood v. Taylor*, 590 F. Supp. 1375, 1378–83 (D. Minn. 1984).

51. *Id.* at 1378–81.

52. *Id.* at 1378–79.

53. *Id.* at 1379.

54. *Id.* at 1381.

55. *Id.*

56. *Id.*

57. *Id.* at 1382.

58. *Id.* at 1383.

59. *Id.* at 1378.

purchased in the underwritten public offering.”⁶⁰ Despite *Osofsky*'s clear directive that Section 11 is to include aftermarket purchasers, *Kirkwood* effectively left them behind and its decision signaled a further erosion of the provision's availability.

Throughout the 1970's and 80's, courts continued to exclude aftermarket purchasers from Section 11's protective shield and continued to narrow its scope to the generally wealthy and sophisticated investors who bought shares directly from underwriters.⁶¹ In 1995, the United States Supreme Court decided *Gustafson v. Alloyd Co., Inc.*, implicitly accepting that Section 11 should only be available to direct purchasers, although the case dealt specifically with Section 12(a)(2) of the '33 Act.⁶² This was all the invitation courts needed to begin their final strike on Section 11's efficacy.

Following the decision in *Gustafson*, various courts expanded and solidified the exclusion of aftermarket purchasers from Section 11 remedies.⁶³ Although aftermarket purchasers retained several different options through the '34 Act, courts began imposing additional restrictions to private rights of action, such as requirements to plead fraud and scienter.⁶⁴ When those requirements were combined with FRCP 9(b)⁶⁵ and the heightened pleading standards created by the Private Securities Litigation Act of 1995⁶⁶, they created an extremely high bar for potential plaintiffs to pass.⁶⁷

The status-quo following *Gustafson* was continually challenged as IPO activity exploded in the mid-to-late-1990's and as more and more average Americans became aftermarket purchasers of securities.⁶⁸ Numerous district⁶⁹ and circuit courts⁷⁰ held that

60. *Id.*

61. See *Wolfson v. Solomon*, 54 F.R.D. 584, 588 (S.D.N.Y. 1972); *Langert v. Q-1 Corp.*, No. 72 Civ. 4804, 1974 WL 377 (S.D.N.Y. 1974).

62. *Gustafson v. Alloyd Co., Inc.*, 513 U.S. 561, 577 (1995).

63. See, e.g., *In re Summit Med. Sys., Inc.*, 10 F. Supp. 2d 1068, 1070 (D. Minn. 1998) (“Section 11 is applicable only to shareholders who acquired their stock in the IPO”); *Gannon v. Continental Ins. Co.*, 920 F. Supp. 566, 575 (D.N.J. 1996) (finding that § 11 of the '33 Act only applies to stocks bought in an IPO and not to stocks purchased via secondary markets); *Gould v. Harris*, 929 F. Supp. 353, 359 (C.D. Cal. 1996) (applying the *Gustafson* standard); *Stack v. Lobo*, 903 F. Supp. 1361, 1376 (N.D. Cal. 1995) (“[T]his Court concludes that § 11 is not applicable to aftermarket transactions.”).

64. *Steinberg & Kirby*, *supra* note 35, at 4–5.

65. FED. R. CIV. P. 9(b).

66. Private Securities Litigation Reform Act of 1995, Pub. L. 104-67, 109 Stat. 737 (codified as amended in scattered sections of 15 U.S.C.).

67. *Steinberg & Kirby*, *supra* note 35, at 38–39.

68. Laura S. Unger, Comm'r, SEC, *The Securities Industry: Some Thoughts on What Lies Ahead* (Oct 12, 2001), <https://www.sec.gov/news/speech/spch514.htm> [<https://perma.cc/L6E5-FTC6>].

69. See, e.g., *Adair v. Bristol Tech. Sys., Inc.*, 179 F.R.D. 126, 133 (S.D.N.Y. 1998) (“To limit liability only to buyers in the IPO and not to buyers who can trace their shares to the registration statement allows the issuers to escape a margin of liability for which § 11 was drafted to cover.”).

70. See, e.g., *Hertzberg v. Dignity Partners, Inc.*, 191 F.3d 1076, 1081 (9th Cir. 1999) (declining to limit § 11 only to people who purchased their stock in the initial offering); *Lee*

aftermarket purchasers had a clear remedy under Section 11 as those courts read that the plaintiffs contemplated by the provision—“any person acquiring such security”—to literally mean *any person*.⁷¹ *Lee v. Ernst & Young LLP* (2002) essentially had the last word on the provision’s applicability to aftermarket purchasers as the Eighth Circuit affirmed the prior literal reading of “any person” and further interpreted Section 11’s prescribed damages to directly reference and include the secondary market.⁷² Given that the provision specifically sets the upper boundary of damages as the amount paid for the security (“not exceeding the price at which the security was offered to the public”),⁷³ the Eighth Circuit found it counterintuitive to imagine that any direct purchaser would pay more than the initial offering price.⁷⁴ Therefore, there would be no need for such language if direct purchasers were the only class contemplated by the statute.⁷⁵

As one can see from the sprawling interpretative history of Section 11, decades of debate have definitively settled that aftermarket purchasers have a right to the remedies offered by the section. But while that case law affirms the rights of aftermarket purchasers under Section 11, tracing seems to undermine those rights by denying virtually all aftermarket purchasers a remedy under the section. The root cause of the Section 11 tracing problem is arguably not its jurisprudence, as tracing comports with the plain meaning and original intent of the statute. Rather, the issue is the method and manner in which intermediaries—currently the DTC—hold, record, and distribute shares.

II. A MARKET FOR LEMONS – STRUCTURAL ROADBLOCKS AND POTENTIAL SOLUTIONS

The introduction of the DTC is without a doubt responsible for the continuing existence of a functioning American securities market. As more and more companies began to list their shares publicly in the optimistic economic climate following World War II, the archaic paper distribution of stock became nearly impossible to administer. This Part examines the development and mechanics of the DTC and argues that its then-groundbreaking methods are quickly becoming obsolete and an impediment to the lofty goal of an efficient securities market.

v. *Ernst & Young LLP*, 294 F.3d 969 (8th Cir. 2002) (holding that § 11 standing exists for aftermarket purchasers who can trace their purchase to a registration statement).

71. *Hertzberg*, 191 F.3d at 1079–81. See also *Lee*, 294 F.3d at 976; *Adair*, 179 F.R.D at 132. Importantly, all of these courts still limit the idea of ‘any person’ to any person who can meet the tracing requirement.

72. *Lee*, 294 F.3d at 976–77.

73. 15 U.S.C. § 77k(e) (2012).

74. *Lee*, 294 F.3d at 977.

75. *Id.*

A. *How the DTC Frustrates Section 11 Plaintiffs*

For companies who have only had one stock offering, such as Facebook at the time of its IPO, tracing is not a concern. If 100% of publicly available stock is covered by one single registration statement, there is generally no need to even engage in a tracing discussion. As discussed previously, aftermarket purchasers are unambiguously included in the contemplation of Section 11.⁷⁶ But, when any other shares have leaked onto the market or if the issuance pursuant to the allegedly faulty registration statement is not the corporation's first offering, tracing effectively precludes all aftermarket purchasers from having the standing to pursue a Section 11 suit. The reason for this stems from the methods employed by the DTC.

Prior to the formation of the DTC in 1973, a subsidiary of the broader Depository Trust and Clearing Company (DTCC), the New York Stock Exchange (NYSE), conducted all trades with physical paper certificates.⁷⁷ The paper stock certificates were delivered to and held by a variety of clearing corporations, which then delivered them to brokers for distribution to secondary purchasers.⁷⁸ The disparate nature of the various entities involved in the clearance and settlement system functioned well enough for a time, but the economic boom following World War II drastically increased the size of the American stock market and transformed stock administration into a nightmare. The volume of shares traded on the NYSE increased from approximately one to two million shares per day in December 1949⁷⁹ to ten to twenty million per day in July 1968.⁸⁰ By December 1968, the value of shares not delivered to buyers within five days of their trades being executed, known as "fails to deliver," totaled over \$4 billion.⁸¹ In order to attempt to keep up with demand, the NYSE began to close completely on Wednesdays as a way to give the exchange time to address the ever-growing backlog of trades.⁸² This crisis, now referred to as the "Paperwork Crisis," was contemporarily

76. See *supra* Section I.B.

77. Wyatt Wells, *Certificates and Computers: The Remaking of Wall Street, 1967 to 1971*, 74 BUS. HIST. REV. 193, 200–01 (2000).

78. Transfer Agent Regulations, 80 Fed. Reg. 81,947, 81,952 (proposed Dec. 31, 2015) (to be codified at 17 C.F.R. pt. 240).

79. *Daily Share Volume in NYSE Listed Issues 1940–49*, NYSE DATA, https://www.nyse.com/publicdocs/nyse/data/Daily_Share_Volume_1940-1949.dat [<https://perma.cc/5F45-PRQ7>] (last visited Nov. 2, 2017).

80. *Daily Share Volume in NYSE Listed Issues 1960–69*, NYSE DATA, https://www.nyse.com/publicdocs/nyse/data/Daily_Share_Volume_1960-1969.dat [<https://perma.cc/T945-HCV6>] (last visited Nov. 2, 2017).

81. 35 SEC ANN. REP. 2 (1969), https://www.sec.gov/about/annual_report/1969.pdf [<https://perma.cc/NPY9-NM5R>] [hereinafter SEC 1969 Ann. Rep.].

82. Transfer Agent Regulations, 80 Fed. Reg. at 81,952.

referred to as “the most prolonged and severe crisis in the securities industry” after the Great Depression.⁸³

In response to the ongoing crisis, the NYSE was asked by the SEC to develop a solution—which arrived in 1968 in the form of an electronic settlement system called the Central Certificate System (CCS) that was administrated by the Central Certificate Service.⁸⁴ The Central Certificate Service would eventually become the DTC in 1973.⁸⁵ Beyond the formation of the CCS/DTC, the SEC took action and “established new record-keeping standards for broker-dealers, imposed new custody requirements for customer funds and securities, and tightened net capital requirements.”⁸⁶ Congress also played a role as it passed several amendments to the ‘34 Act which gave the SEC the authority to establish a “national system for prompt and accurate clearance and settlement in securities” as well as enable “linked or coordinated facilities for clearance and settlement of related financial products.”⁸⁷ The SEC would use the authority granted by Congress to establish the National Securities Clearing Corporation (NSCC) in 1977—which would merge with the DTC in 1999 to form the DTCC.⁸⁸ After some growing pains, the NYSE saw fails decrease to \$2.2 billion by late 1969⁸⁹ as a result of the new settlement regime.

Under the new and improved DTC process, which is still in use today, brokers buy shares and those shares are held by the DTC — rather than being physically handed over to the brokers.⁹⁰ These shares are held in what is called a “fungible mass”, as described above in Part I, and are not distinguished from older or newer shares.⁹¹ Instead, brokers who are DTC members maintain a pro rata share of the fungible mass, which is adjusted according to that specific member’s transfers, and there is no record of individual ownership of specific shares.⁹² With that structure in mind, the obstacle of Section 11’s tracing requirement becomes even more significant as nearly all brokerage firms generally do not have the records to allow any given stockholder to trace their shares to a particular offering.

83. SEC, STUDY OF UNSAFE AND UNSOUND PRACTICES OF BROKERS AND DEALERS, H.R. DOC. NO. 92-231, at 1 (1st Sess. 1971).

84. Transfer Agent Regulations, 80 Fed. Reg. at 81,952.

85. ROY S. FREEDMAN, INTRODUCTION TO FINANCIAL TECHNOLOGY 285 (2006).

86. Larry E. Bergmann, Senior Assoc. Dir., Div. of Mkt. Regulation, SEC, Speech at the International Securities Settlement Conference: The U.S. View of the Role of Regulation in Market Efficiency (Feb. 10, 2004), <https://www.sec.gov/news/speech/spch021004leb.htm> [<https://perma.cc/CXG-WH6H>].

87. *Id.*

88. *Id.*

89. SEC 1969 Ann. Rep., *supra* note 81.

90. *Kirkwood*, 590 F. Supp. at 1378–79.

91. Steinberg & Kirby, *supra* note 35, at 34.

92. *Kirkwood*, 590 F. Supp. at 1379.

B. *Rule 144 as an Exclusionary Strategy*

On top of the issues that the DTC creates for Section 11 plaintiffs, tracing is further frustrated by the availability of Rule 144. Under Rule 144, shares that are not offered pursuant to a registration statement, such as those offered in employee stock benefit plans, are allowed to be offered for sale in public markets without the accompanying registration stipulations if the seller meets a number of criteria.⁹³ As a consequence, prominent corporate lawyers strongly suggest that IPO-ready companies use Rule 144 shares as a strategy to pre-empt Section 11 IPO lawsuits.⁹⁴ Boris Feldman, a partner with the prominent securities firm Wilson Sonsini Goodrich & Rosati, advises pre-IPO corporations to shorten the “lock-up” period, meaning the contractually-mandated period of time after the offering where corporate insiders are restricted from selling their shares, in order to “enhance the potency of the standing defense to Section 11 claims.”⁹⁵ Once the Rule 144 shares hit the market, aftermarket purchasers can no longer prove whether their shares came from the unregistered issuance or the IPO.⁹⁶ Feldman further contends that those who directly participated in the IPO “tend to be large institutions that will be reluctant to support a non-meritorious securities fraud class action,” and that exclusion of aftermarket purchasers will reduce the likelihood of “strike” suits.⁹⁷ Professor Hillary Sale of the Washington University School of Law explains the reason for institutional investors’ reluctance to bring securities lawsuits in her note “Disappearing Without a Trace.”⁹⁸ Sale points out that “because IPOs are usually profitable in the short run, Original Shareholders never lose money,”⁹⁹ and therefore have no reason to file a Section 11 suit because they immediately flip their shares in the secondary market. Sale continues to lament that as aftermarket purchasers have no Section 11 standing due to tracing, and with no reason for direct purchasers to file suit, the statute’s enforcement powers have become meaningless and that “[t]he result is a market for lemons.”¹⁰⁰

The conflict between Sale’s and Feldman’s perspectives on the value of Section 11 illustrates the conflict at the heart of its mercurial jurisprudence—corporate versus public interests. Eliminating tracing would likely increase strike suits following IPOs and harm corporations, but the requirement’s continued existence denies investors the justice intended by the ‘34 Act’s drafters. In this light,

93. 17 C.F.R. 230.144 (2017).

94. Feldman, *supra* note 36.

95. *Id.*

96. *Id.*

97. *Id.*

98. Sale, *supra* note 22, at 491–92.

99. *Id.*

100. *Id.* at 492.

the issue of tracing is a zero-sum game and each side is aggressively jockeying to get its way in court. There have been several solutions to this conflict proposed by various scholars and practitioners; the following section examines and weighs some of those presented.

C. *Proposed Solutions to the Tracing Problem*

1. Restrict Standing to Direct Purchasers

In the note “The Critical Issue of Standing Under Section 11 of the Securities Act of 1933”, Paul C. Curnin and Christine M. Ford present a drastic solution to the tracing problem as they suggest that Section 11 standing should be restricted to the direct IPO purchasers only, removing the need for tracing at all.¹⁰¹ They argue that the “[e]radication of the ‘tracing’ concept from Section 11 jurisprudence would reflect the proper interpretation of the statutory language and legislative intent, and provide clarity in this important area of law.”¹⁰² Curnin and Ford believe that Section 10(b) of the ‘34 Act and its corresponding Rule 10b-5 provide an adequate remedy for securities fraud.¹⁰³ Although this arguably provides the clarity the authors seek, it does not address the conflict noted above by Sale as those involved in the direct stock offering rarely lose money. Even in the disastrous Facebook IPO the shares still ended nominally above their original offering price after the first day of trading.¹⁰⁴ Those who purchased Facebook shares in the IPO and then immediately sold in the secondary market certainly turned a profit.¹⁰⁵ This reality seems to discredit Curnin and Ford’s proposition as it does not make much sense for Congress to include a strict liability provision that it never intended anyone to actually use. Curnin and Ford import a degree of “logic and ease of application” to their method,¹⁰⁶ but one could argue that this simplification comes at the expense of one of the ‘33 Act’s most effective safeguards.

2. Process Improvements

The tension at the heart of Section 11 is between corporate and investor interests, as seen earlier in the contrasting perspectives of Hillary Sale and Boris Feldman. Securities litigation as a whole consumes a huge amount of resources and has become increasingly frequent over the years.¹⁰⁷ It is no surprise that corporations want to

101. Curnin & Ford, *supra* note 23, at 155–56.

102. *Id.* at 206.

103. *Id.* at 193.

104. Safdar, *supra* note 4.

105. *Id.*

106. Curnin & Ford, *supra* note 23, at 206.

107. See Koji F. Fukumura & Peter M. Adams, *Update on Corporate Governance Litigation: M&A and Proxy Strike Suits*, ABA (2013), <https://www.americanbar.org/content/>

minimize the potential damage from IPO litigation, as Feldman describes when he suggests leaking Rule 144 shares following an IPO by shortening the lock-up period.¹⁰⁸ Although a shortened lock-up period is a legally acceptable method of reducing corporate exposure, it nonetheless denies legitimate claimants the chance to recover in the event of a legitimately deficient registration statement because they purchased their shares a few weeks too late. Rather than incentivize corporations to throw the legitimate claimant babies out with the strike suit bathwater, Hillary Sale presents a case for reducing the cost of Section 11 litigation through procedural improvements.¹⁰⁹

Sale offered a more moderate solution to reducing frivolous lawsuits: requiring a bond to file suit¹¹⁰, as authorized under Section 11(e),¹¹¹ and more active judicial management of discovery.¹¹² Sale argues that the pre-existing bond requirement shows that Congress was concerned with the possibility of strike suits and that it felt that it was an adequate preventative measure.¹¹³ In regards to discovery management, Sale suggests specific process improvements such as a “limited initial-discovery program focused on the alleged misstatements or omissions” that includes limited use of documents and a ban on depositions,¹¹⁴ which would preserve Section 11 remedies for aftermarket purchasers but would reduce the massive cost of discovery. Sale also offers this limited discovery and bond requirement in conjunction with a new form of tracing that was first introduced, and rejected, in *Krim v. pcOrder.com, Inc.*: statistical tracing,¹¹⁵ which is explained in the following section. It is difficult to predict whether Sale’s proposition will be as effective as she argues, but given that implementing her suggested improvements will likely require Congressional action, it is worthwhile to examine more probable solutions.

3. Statistical Tracing

As one final analysis in the survey of proposed solutions to tracing, this Note examines statistical tracing, which was first proposed in *Krim*.¹¹⁶ In *Krim*, the plaintiffs used a statistical model to trace allegedly deficient registration statements for the company’s IPO and secondary offering.¹¹⁷ The plaintiffs used this model because

dam/aba/administrative/litigation/materials/2013_corporate_counselcseminar/7_2_updat
e_on_corporate_governance.authcheckdam.pdf [https://perma.cc/A7G4-5ZYJ].

108. Feldman, *supra* note 36.

109. Sale, *supra* note 22, at 492–93.

110. *Id.* at 492.

111. 15 U.S.C. § 77k(e) (2012).

112. Sale, *supra* note 22, at 492.

113. *Id.*

114. *Id.*

115. *Krim v. pcOrder.com, Inc.*, 402 F.3d 489, 495–96 (5th Cir. 2005).

116. *Id.*

117. *Id.* at 491, 495–96.

of the established confusion in tracing shares to specific registration statements when there is more than one offering.¹¹⁸ One plaintiff used the model to show that he purchased his shares when 99.85% of the shares on the market were issued subject to the IPO statement and the remainder were Rule 144 insider shares.¹¹⁹ Despite the extreme likelihood that all of the shares came from the allegedly defective registration statement, the Fifth Circuit rejected this method of tracing and affirmed the lower courts holding that “[l]ead Plaintiffs must demonstrate *all* stock for which they claim damages was actually issued pursuant to a defective statement, not just that it might have been, probably was, or most likely was, issued pursuant to a defective statement.”¹²⁰ The *Krim* holding is arguably fair as they noted that the statistical tracing model would effectively increase standing to all stockholders, regardless of what registration statement their shares were issued under, as they could claim a share of the damages proportional to defective shares on the market at the time of purchase.¹²¹ *Krim* again highlights the tension between public and corporate interests and seems to imply that discerning a truly objective and fair implementation of Section 11 is unlikely.

Without a clear mandate from Congress or a landmark Supreme Court decision, there does not seem to be an obvious solution that retains Section 11’s enforcement powers without sacrificing legitimate corporate interests. What if there were a solution that eliminated the unfairly exclusionary effects of tracing without increasing strike suits, but nonetheless provided positive residual benefits to corporations? The remainder of this Note is dedicated to exploring the developing technology of blockchain, and its application as a viable solution to tracing.

III. BLOCKCHAIN: CERTAINTY IN AN UNCERTAIN WORLD

In order to explain how blockchain addresses the issue of Section 11 tracing, Section A of this Part first examines how money is currently transferred between financial institutions as a way to introduce the creation of the virtual currency Bitcoin, which is built on blockchain technology. Section A then examines Bitcoin’s mechanics to explain how blockchain itself functions. Section B highlights the recent uptick in interest in applying blockchain to the financial industry as a way of highlighting the technology’s viability. Section C analyzes what methods may be most effective at promoting blockchain’s adoption within the United States’ financial markets. Section C then argues that cooperation between the SEC, the financial industry’s self-regulatory organizations (SROs), and public

118. *Id.* at 495.

119. *Id.* at 492.

120. *Id.* at 493.

121. *Id.* at 496–97.

corporations, rather than forced regulation, is the most prudent way to avoid the missteps evident in the SEC's push for decimalization in the early 2000's.

A. *New Kid on the Block(chain)*

In response to the hacker subculture's interest in an unregulated, decentralized, international digital currency, Bitcoin burst onto the financial scene in 2009.¹²² Bitcoin is one of the world's first digital currencies¹²³ and the most widely used "cryptocurrency."¹²⁴ A cryptocurrency derives its name from the fact that it utilizes cryptographic formulas as a method of allowing secure and tamper-proof exchanges without the need for third-party administration.¹²⁵ In contrast to Bitcoin, most financial transactions are currently processed through methods that must be administered and regulated by banking institutions and various regulators.

1. ACH: An Impetus for Bitcoin

The majority of bank-to-bank, business-to-business, and person-to-person transactions are currently processed through the Automated Clearing House (ACH) network.¹²⁶ ACH is a network of computers that is regulated by the National Automated Clearing House Association (NACHA) and the Federal Reserve.¹²⁷ Currently, the ACH Network processes \$43 trillion worth of transactions every year.¹²⁸ When an "originator" initiates a transfer, the financial institution that the individual or entity belongs to enters the transfer into their system and submits the transactions to the ACH Network in a bundle with other ACH transactions.¹²⁹ The transactions are transmitted to one of two "central clearing facilities": either the Federal Reserve or The Clearing House Payments Company, also known as "The Clearing House."¹³⁰ Once received and processed, the clearing facilities then transmit the transactions to the receiving institutions and the appropriate accounts are debited within one to

122. See Benjamin Wallace, *The Rise and Fall of Bitcoin*, WIRED (Nov. 23, 2011, 2:52 PM), https://www.wired.com/2011/11/mf_bitcoin [https://perma.cc/AF6D-5Y6V].

123. *Id.*

124. JERRY BRITO & ANDREA O'SULLIVAN, BITCOIN: A PRIMER FOR POLICYMAKERS 26 (Mercatus Ctr. at Geo. Mason Univ., 2d ed. 2013), https://www.mercatus.org/system/files/Brito_BitcoinPrimer.pdf [https://perma.cc/D268-8W8W].

125. See Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN.ORG 1 (2008), <https://bitcoin.org/bitcoin.pdf> [https://perma.cc/P9UZ-WD5Q].

126. See *What is ACH?: Quick Facts About the Automated Clearing House (ACH) Network*, NACHA (Oct. 1, 2015), <https://www.nacha.org/news/what-ach-quick-facts-about-automated-clearing-house-ach-network> [https://perma.cc/J3R6-QSSX].

127. *ACH Network: How it Works*, NACHA, <https://www.nacha.org/ach-network> [https://perma.cc/6QAH-7MK9] (last visited Oct. 12, 2017).

128. *Id.*

129. *Id.*

130. *Id.*

two business days.¹³¹ Although the process seems straightforward, the system is relatively susceptible to fraud—whether it be from hijacked account information or an insider at a bank.¹³² Because of the sheer volume of ACH Transactions, banks have a difficult time locating instances of fraud (characterized as a “needle in a haystack”)¹³³ and that difficulty necessitates a multi-day settlement period rather than an instantaneous transaction.

2. A Brief Introduction to Blockchain via Bitcoin

In contrast to the “permission-based” ACH system, Bitcoin transactions are described as “permissionless”¹³⁴ as Bitcoin does not require a third-party intermediary clearing entity to safeguard the process. To understand how Bitcoins are transferred from one user to another, one must understand the underlying mechanics of the technology.

Bitcoin is built on top of a ledger system called blockchain. The “blockchain” moniker is derived from the fact that the ledger itself is composed of individual blocks of data that contain a sequential record of transactions that have been formed through a method called “hashing.”¹³⁵ Hashing is a one-way cryptographic function which transforms data into hexadecimal code, making it difficult to retroactively forge the information.¹³⁶ In the blockchain network, transactions are combined into blocks via the hashing process every ten minutes.¹³⁷ Each block of transactions contains information, such as what is being transferred, the time and date of the transfer, and the identities of the transferee and transferor.¹³⁸ Once a new block is created, a header is created in that block that represents the information in the previous block, hence the “chain” in blockchain.¹³⁹ In that sense, one could look at each block in the blockchain and trace each transferred asset all the way back to where it originated.¹⁴⁰

The process of block creation within the Bitcoin network is carried out by members of the network who operate “nodes.”¹⁴¹ To create a block, a node must combine relevant transaction data with a

131. *Id.*

132. ACI UNIVERSAL PAYMENTS, FIGHTING ACH FRAUD: AN INDUSTRY PERSPECTIVE VOLUME 2 3–4 (2014), <https://www.aciworldwide.com/-/media/files/collateral/aci-white-paper-fighting-ach-fraud-v2-tl-us5062-0813.pdf?la=en> [<https://perma.cc/36LU-XBBX>].

133. *Id.* at 5.

134. Clifton B. Parker, *The Promise and Peril of Bitcoin*, INSIGHT BY STANFORD BUS. (Feb. 25, 2014), <https://www.gsb.stanford.edu/insights/promise-peril-bitcoin> [<https://perma.cc/EB9F-GXEB>].

135. David Yermack, *Corporate Governance and Blockchains*, 21 REV. FIN. (forthcoming 2017) (manuscript at 7), <https://ssrn.com/abstract=2700475> [<https://perma.cc/V5HT-RCHL>].

136. *Id.*

137. *Id.* at 11.

138. *Id.* at 8.

139. *Id.*

140. *See id.*

141. *Id.* at 9.

complex and random number sequence called a “nonce”—this is the above-mentioned hashing process.¹⁴² The nonce can only be discovered through a “computationally costly” trial-and-error process that acts as a “proof-of-work” that shows the rest of the blockchain’s members that the block is valid.¹⁴³ Once the nonce is found and combined with the other relevant transaction data, a block is created and the network’s nodes begin to work on the next bundle of transaction data.¹⁴⁴ Additionally, a predetermined amount of new Bitcoins is also deposited in the digital “wallet” of whoever’s node solved the problem.¹⁴⁵ The end result of the process is an incentivized system that keeps users’ computing power propelling the generation of the blocks of data while also creating a public ledger that is practically impossible to alter—as one would have to go back and change each and every previous block to reflect the altered information in order to avoid the discovery of the fraud. In this sense, a blockchain ledger is immutable because no computer or network of computers is powerful enough to make a fraudulent change and then alter every previously linked block before any member of the network notices the discrepancy.¹⁴⁶

As mentioned previously, while ACH is a “permission-based” system, Bitcoin is permission free.¹⁴⁷ Transaction settlement is not contingent on the actions of an intermediary and falsification is considered practically impossible due to the blockchain ledger system. While ACH transactions take days to settle due to fears of fraudulent activity, Bitcoin transactions are theoretically instant—although settlement time is actually dictated by the time it takes to create a block, which can be an hour or more due to the unique hashing process of the currency.¹⁴⁸ Although the distribution of Bitcoins can be vulnerable to various hacks and bad actors, such as the widely publicized debacle at Mt. Gox,¹⁴⁹ the underlying blockchain technology is not at fault. Blockchain technology has proven so promising that it has recently and prominently been

142. *Id.*

143. *Id.* at 10.

144. *Id.* at 9–10.

145. *Id.* at 10.

146. *Id.* at 11.

147. *See supra* Part III.A.1.

148. Jordan Pearson, *Bitcoin’s ‘New Normal’ is Slow and Frustrating*, MOTHERBOARD (Feb. 29, 2016, 2:19 PM), https://motherboard.vice.com/en_us/article/78k8zz/bitcoin-new-normal-slow-confirmation-block-size-debate [<https://perma.cc/W8V6-KQGK>].

149. *See* Agamoni Ghosh, *Bitcoin Exchange MtGox CEO Mark Karpeles Spent Embezzled Funds on Prostitutes*, INT’L BUS. TIMES (Oct. 30, 2015, 4:43 AM), <http://www.ibtimes.co.uk/bitcoin-exchange-mtgox-ceo-mark-karpeles-spent-embezzled-funds-prostitutes-1526196> [<https://perma.cc/5HK7-DK3P>].

embraced by the financial industry as a potentially groundbreaking development.¹⁵⁰

B. Blockchain: FinTech's New Golden Child

Despite Bitcoin's record breaking run of appreciation through 2017, the currency is still largely known for its volatility.¹⁵¹ The recent hacking debacle involving the Decentralized Autonomous Organization (DAO), a venture capital fund based on another cryptocurrency called "Ethereum," highlights the difficulties in maintaining an unregulated digital currency.¹⁵² When the DAO fund was compromised in 2016 and hackers tried to misappropriate nearly \$50 million, the various investors in the fund could not decide how to move forward.¹⁵³ Most wanted to create a new fork in the Ethereum blockchain that would not reflect the hack, now known as the "hard fork."¹⁵⁴ Others believed that the faulty DAO programming represented a kind of law and that the hackers only exploited poorly written "law," therefore retaining legal claim to the funds they attempted to take.¹⁵⁵ Those who felt the hack should be respected maintained the abandoned fork in the Ethereum blockchain and today it lives on as "Ethereum Classic."¹⁵⁶ The DAO hack shows that although blockchain is a promising technology, the need for some kind of regulation, whether government imposed or industry decided, is evident. Financial markets take to volatility like oil to water and the wild rides of Bitcoin and Ethereum show that there needs to be more than loose cooperation across the financial industry to implement blockchain in a way that will continue to promote growth and stability.

The current applicability of blockchain to financial markets has triggered a mass wave of optimism within the financial technology ("FinTech") sector. In 2015, NASDAQ announced that it would be

150. Meet 'The Ledger': Fortune's Focus on Fintech and Blockchain, FORTUNE (Aug. 22, 2017), <http://fortune.com/2017/08/22/ledger-blockchain-fintech/> [<https://perma.cc/8XFG-K7R8>].

151. Dani Burger, *Bitcoin Has Become So Volatile It Looks Like an ETF on Steroids*, BLOOMBERG (June 29, 2017, 4:00 AM), <https://www.bloomberg.com/news/articles/2017-06-29/bitcoin-s-become-so-volatile-that-it-looks-like-a-steroidal-etf> [<https://perma.cc/4W6T-TH2A>] ("[B]y design bitcoin is inherently unregulated. Part of the reason you end up with volatility is because of the lack of market structure.")

152. David Siegel, *Understanding the DAO Attack*, COINDESK (June 25, 2016, 4:00 PM), <http://www.coindesk.com/understanding-dao-hack-journalists> [<https://perma.cc/LN68-MPVU>].

153. *Id.*

154. Aaron van Wirdum, *Ethereum Classic Forges New Path; Revamped Monetary Policy Could Be Next*, BITCOIN MAGAZINE (Dec. 13, 2016, 2:11 PM), <https://bitcoinmagazine.com/articles/ethereum-classic-forges-new-path-revamped-monetary-policy-could-be-next-1481656302> [<https://perma.cc/D9US-CSHT>].

155. Arvico, *Code is Law and the Quest for Justice*, ETHEREUM CLASSIC BLOG (Sept. 8, 2016), <https://ethereumclassic.github.io/blog/2016-09-09-code-is-law/> [<https://perma.cc/4CZV-G2R6>].

156. *Id.*

deploying a blockchain-based trading system for private companies as a kind of proof-of-concept for the technology¹⁵⁷ and financial firms are estimated to have invested over \$1.4 billion into blockchain technologies in 2016.¹⁵⁸ Even the DTCC, who is likely to see its entire business model change drastically if blockchain is adopted, released a white paper in January 2016 entitled “Embracing Disruption: Tapping the Potential of Distributed Ledgers to Improve the Post-Trade Landscape.”¹⁵⁹ Within the paper, the DTCC acknowledges that the widespread adoption of blockchain has the potential to revolutionize securities by “modernizing, streamlining and simplifying the siloed design of the financial industry infrastructure,”¹⁶⁰ but further warns that the financial industry must do a better job of coordinating to create a standardized blockchain solution.¹⁶¹

The end goal of a blockchain-based securities registry is instantaneous trade settlement that would, as described in the Wall Street Journal, “reduce the risk of counterparty failure and free up billions of dollars of capital that is sidelined during that wait period.”¹⁶² Although the DTCC notes in “Embracing Disruption” that the current three-day settlement period is a product of contemporary securities law and standards,¹⁶³ there is a growing sentiment that the laws and standards will change if a trustworthy blockchain-based ledger can be developed and implemented. Overstock.com’s CEO Patrick Byrne has become a prominent and vocal supporter for blockchain and continues to vigorously support the idea of instantaneous trade settlements.¹⁶⁴

Byrne is notable as an advocate against a dubious and now-illegal trading practice called “naked shorting.”¹⁶⁵ This practice involves shorting shares that have not been confirmed as actually able to be borrowed—leading to the potential outcome that more

157. Bradley Hope & Michael J. Casey, *A Bitcoin Technology Gets Nasdaq Test*, WALL ST. J. (May 10, 2015), http://www.wsj.com/article_email/a-bitcoin-technology-gets-nasdaq-test-1431296886-1MyQjAxMTE1MzEyMDQxNzAwWj [https://perma.cc/73FH-CKUS].

158. Jamie Redman, *\$1.4 Billion Invested in Blockchain, Says PwC Executive*, BITCOIN.COM (Nov. 8, 2016), <https://news.bitcoin.com/1-4-billion-invested-blockchain-pwc> [https://perma.cc/4NZ6-LXLX].

159. DTCC, EMBRACING DISRUPTION: TAPPING THE POTENTIAL OF DISTRIBUTED LEDGERS TO IMPROVE THE POST-TRADE LANDSCAPE 2 (Jan. 2016), <http://www.dtcc.com/news/2016/january/25/blockchain-white-paper> [https://perma.cc/F5VS-TGY6] [hereinafter EMBRACING DISRUPTION].

160. *Id.*

161. *Id.*

162. Hope & Casey, *supra* note 157.

163. EMBRACING DISRUPTION, *supra* note 159, at 3–4.

164. See Jordan Pearson, *Overstock Wants To Fix Wall Street By Trading Brokers for the Blockchain*, MOTHERBOARD (Dec. 16, 2015, 2:21 PM), https://motherboard.vice.com/en_us/article/53dpjz/overstock-wants-to-fix-wall-street-by-trading-brokers-for-the-blockchain [https://perma.cc/W8V6-KQGK].

165. Jacob Dienelt, *Overstock’s Blockchain and the War Against Naked Shorting*, COINDESK (Nov. 9, 2016, 1:30 PM), <http://www.coindesk.com/overstocks-blockchain-war-naked-shorting> [https://perma.cc/B3QG-VDS9].

shares are being shorted than can be feasibly delivered to investors. As a result, market manipulators have been found to be able to artificially depress stock prices through naked shorting and can cause massive losses to both investors and companies.¹⁶⁶ Naked shorting was deregulated shortly before the financial crisis of 2008, and commentators debate the role the practice played in the meltdown.¹⁶⁷ Byrne has postulated that if shares were registered on blockchain, any short sale could be instantly verified as borrowed or unborrowed and naked short sales would be functionally impossible.¹⁶⁸ In that vein of thought, Byrne created tØ, a blockchain-based securities company, whose name takes inspiration from the current nomenclature in securities trading that refers to how many days it will take for a trade to settle following the initial order: T(rade)+1, T+2, etc.¹⁶⁹ Byrne has stated his intentions to create a platform that allows the registration of securities on the blockchain and, as mentioned above, enable instantaneous trade settlements, à la T+0.¹⁷⁰

In December 2015, Byrne and Overstock.com stunned the securities world when the SEC approved the company's S-3 detailing its plan to issue preferred shares on blockchain.¹⁷¹ Overstock.com's blockchain offering occurred in December 2016 in which the company distributed over 126,000 shares¹⁷² and raised nearly \$11 million.¹⁷³ The entire ledger of all the blockchain-issued shares is publicly available on tØ's website and allows any viewer to see all trades, how much per share was paid, and the private identity keys of the transferee and transferor.¹⁷⁴ Having this information at hand

166. *A Company's Battle to Show it Was a Victim of Abusive Short-Selling*, ECONOMIST (Nov. 10, 2015), <https://www.economist.com/news/finance-economics/21678146-latest-chapter-companys-battle-show-it-was-victim-abusive> [<https://perma.cc/UU6C-8RV8>].

167. See Dienelt, *supra* note 165; see also Katherine McGavin, *Short Selling in a Financial Crisis: The Regulation of Short Sales in the United Kingdom and the United States*, 30 NW. J. INT'L L. & BUS. 201, 202 (2010) ("The debate escalated after the SEC Changed U.S. securities law to allow so-called "naked" short sales in July 2007. After a short quiet period, the debate resurfaced when the FSA, SEC, and other regulators temporarily banned short selling of certain securities in 2008.").

168. Dienelt, *supra* note 165.

169. Press Release, SEC, SEC Adopts T+2 Settlement Cycle for Securities Transactions (Mar. 22, 2017), <https://www.sec.gov/news/press-release/2017-68-0> [<https://perma.cc/5GCE-3HFZ>].

170. Pearson, *supra* note 164.

171. Jacob Donnelly, *SEC Approves Overstock.com S-3 Filing to Issue Shares Using Bitcoin Blockchain*, BITCOIN MAG. (Dec. 7, 2015, 8:52 PM), <https://bitcoinmagazine.com/articles/sec-approves-overstock-com-s-filing-to-issue-shares-using-bitcoin-blockchain-1449539558> [<https://perma.cc/6CUR-3TS7>].

172. Cade Metz, *Overstock Begins Trading Its Shares Via the Bitcoin Blockchain*, WIRED (Dec. 15, 2016, 6:20 PM), <https://www.wired.com/2016/12/overstock-com-issues-stock-via-bitcoin-blockchain> [<https://perma.cc/XA8G-YMWD>].

173. Michael del Castillo, *Overstock Raises \$10.9 Million in First Blockchain Stock Issuance*, COINDESK (Dec. 15, 2016, 1:15 PM), <http://www.coindesk.com/overstock-first-blockchain-stock-issuance> [<https://perma.cc/49GY-EDWR>] ("Of the total \$10.9m raised from existing shareholders, about \$1.9m was raised via shares traded on the tØ blockchain platform developed by Overstock.com subsidiary Medici.").

174. *Blockchain Explorer*, T ZERO, <http://ledgerexplorer.t0.com/static/search.html> [<https://perma.cc/TTA9-6D8C>] (last visited Nov. 2, 2017).

for all publicly traded shares would create a wealth of data that could be utilized by analysts and create a more efficient market. Many are likening the advent of blockchain to the Internet revolution in terms of how it could drastically change how people do business¹⁷⁵ and Overstock.com's successful test shows just how disruptive a universal blockchain-based stock registry could be.

C. *A Hammer for Tracing's Nail*

In light of blockchain's proposed application as a way to give capital markets increased efficiency and transparency,¹⁷⁶ its potential to solve Section 11's tracing problem seems almost too good to be true. If all publicly traded companies registered their shares on a blockchain-based platform, the process of determining what offering one's shares came from would take minutes, if not seconds. It would provide a solution that is fairly objective in regards to public and corporate interests, as blockchain would effectuate the deterrence intended by the statute by allowing the proper plaintiffs to prove standing, but nonetheless providing numerous residual benefits to corporations such as a more efficient market and a myriad of other improvements with regards to corporate governance, as I describe below. The question remains, though, how to best actuate the adoption of such a daunting and disruptive technology. I examine two methods of enacting this change below: through promulgation of an SEC regulation requiring a uniform blockchain-based platform or through a more voluntary and industry-led method of allowing market forces to dictate its standards and adoption.

1. SEC Regulation

Although it is unclear as of this writing if Overstock.com's blockchain-based stock offering has definitively proven the technology's viability, the interest the offering has generated has reaffirmed blockchain's potential within the financial industry. In the event of the successful deployment of Overstock.com's blockchain registry, the SEC would be well within its Congressional mandate to promulgate a rule requiring that all publicly traded shares be offered on a regulated blockchain platform, given that the SEC's ultimate mission is to "protect investors, maintain fair, orderly, and efficient

175. See Marco Iansitu & Karim R. Lakhani, *The Truth about Blockchain*, HARV. BUS. REV. (2017), <https://hbr.org/2017/01/the-truth-about-blockchain> [<https://perma.cc/78VW-X4QE>] ("Indeed, virtually everyone has heard the claim that blockchain will revolutionize business and redefine companies and economies.").

176. *T0 Licenses Platform to Electronic Transaction Clearing, Inc.*, T ZERO (Oct. 6, 2016), <https://www.t0.com/news/2016/12/14/t0-licenses-platform-to-electronic-transaction-clearing-inc> [<https://perma.cc/D53M-X35A>].

markets, and facilitate capital formation.¹⁷⁷ Assuming blockchain can do all the things that have been attributed to it, one can imagine that it would be almost necessary to require the migration from the current system, which has remained relatively unchanged since the 1970's, to blockchain. Fair, orderly, and efficient markets? A publicly viewable and immutable registry of shares and their execution prices that requires no third-party administration accomplishes exactly that. Instantaneous settlement and the availability of ownership and pricing information would further enable efficiency. Blockchain would also facilitate capital formation considering the above-mentioned freeing of capital tied up in pending trades.¹⁷⁸ This hypothetical rule's applicability to Section 11 would reduce the friction for plaintiffs to have their day in court and that aspect alone could completely reshape the process of drafting registration statements and help fulfill the SEC's promise of protecting investors.

a. The Specter of Decimalization

It is easy to get carried away with the huge potential for a mandatory blockchain registry, but the reminder of decimalization spreads doubt in even the strongest believer's mind. Decimalization describes listing stock prices in penny increments rather than in the long-standing American method of 1/8th of a dollar increments.¹⁷⁹ The SEC first proposed a shift from fractional "tick sizes" to decimals in the 1990s as a way to increase the U.S. market's competitiveness with foreign markets that had already adopted decimalization.¹⁸⁰ Gradually, American markets began to move towards smaller tick sizes by first adopting the listing of stocks with a certain price in 1/16th of a dollar increments.¹⁸¹ Following the announcement that Congress would soon be directing the SEC to adopt rules mandating decimalization in 1997, most U.S. markets confirmed that they planned to make the switch by January 2000.¹⁸² Despite the seemingly clear benefits that decimalization presented at the time,¹⁸³ it has proven to be fairly damaging to U.S. markets, and the SEC determined that it has two major effects: (i) decimalization "put the economic sustainability of sell-side research departments under stress by reducing the spreads . . . that formerly helped to fund

177. *What We Do*, SEC (June 10, 2013), <https://www.sec.gov/about/whatwedo.shtml> [<https://perma.cc/7BMX-ZF9R>].

178. Hope & Casey, *supra* note 157.

179. SEC, REPORT TO CONGRESS ON DECIMALIZATION, AS REQUIRED BY SECTION 106 OF THE JUMPSTART OUR BUSINESS STARTUPS ACT 4 (2012), <https://www.sec.gov/news/studies/2012/decimalization-072012.pdf> [<https://perma.cc/WZQ5-WX86>] [hereinafter REPORT TO CONGRESS ON DECIMALIZATION].

180. *Id.*

181. *Id.*

182. *Id.* at 5.

183. See Steven M.H. Wallman, *Saving Billions for Investors, A Penny at a Time*, 7 Bus. L. Today 13 (1997) (hypothesizing that decimalization will reduce certain market anomalies).

research analyst coverage;¹⁸⁴ and (ii) decimalization created incentives for the market to favor large capitalization, high-liquidity equities over smaller capitalization stocks—making it significantly harder for smaller companies to find an IPO underwriter.¹⁸⁵ Further, decimalization is said to have drastically increased market volatility, decreased liquidity, and actually increased the price-per-trade for investors.¹⁸⁶ If the SEC proposes another set of regulations that signals a massive shift in market strategies, it is likely that such proposals will face staunch opposition from the myriad of powerful interest groups who fear another ill-advised government mandate. At a minimum, the effects of decimalization will create skepticism at an SEC attempt to mandate the adoption of a blockchain-based registry.

2. Market Forces

There are well-founded fears in regard to the potential harm in a short-sighted SEC rule mandating a blockchain-based registry of publicly traded stocks.¹⁸⁷ Despite the wariness of some, there is still hope that the financial industry as a whole will make the move to blockchain without being compelled. The residual benefits of blockchain, as described in this section, may be the motivation needed for industry-wide cooperation.

As mentioned above, the DTCC has openly embraced the potential for blockchain and, after weighing the pros and cons of its adoption, has concluded that “the industry should seize the emergence of this technology” and that the current shift towards blockchain “mirrors the history of financial innovation beyond the few points in time where an industry mandate or regulation forced the industry to cooperate.”¹⁸⁸ But, aside from the highly touted benefits of increased market efficiency that may result from more available data and faster settlement times, what benefits could blockchain bring that would push corporations to adopt the technology? This section looks at the potential blockchain-related benefits from the perspective of an individual corporation, specifically assessing two high-impact benefits—the ability to quickly detect insider trading and an easy-to-administer method of eliminating empty voting. Although this Note will not propose any specific standardization scheme, it must be emphasized that, even if corporations embrace blockchain without being compelled by an SEC

184. REPORT TO CONGRESS ON DECIMALIZATION, *supra* 179, at 2.

185. *Id.*

186. David Serchuk, *Decimalization And Its Discontents*, FORBES (Mar. 10, 2009, 6:00 AM), <http://www.forbes.com/2009/03/09/decimalization-uptick-rule-intelligent-investing-volatility.html> [https://perma.cc/Q2BH-75S3].

187. See Marco A. Santori, Comment Letter on Proposed Rule on Transfer Agent Regulations (Apr. 14, 2016), <https://www.sec.gov/comments/s7-27-15/s72715-36.pdf> [https://perma.cc/5NPH-55LB].

188. EMBRACING DISRUPTION, *supra* note 159, at 18.

regulation, any new blockchain-based system will still require standardization from the market's self-regulatory bodies to be effective and sufficiently transparent.

a. Insider Trading

The prohibition on unauthorized insider trading is one of the cornerstones of American securities law, as such trading “undermines investor confidence in the fairness and integrity of the securities market.”¹⁸⁹ The practice has been and remains one of the most difficult corporate crimes to track and prove, and the SEC relies heavily on its own analysts and whistleblowers to detect it.¹⁹⁰ The SEC has a clear interest in preventing insider trading given its mandate, however, corporations also have an interest in not allowing insiders to profit by stealing companies' material, nonpublic information. Although there is a contentious debate over exactly how insider trading hurts corporate interests,¹⁹¹ the harm will be assumed for the sake of this argument. If the assumption stands that insider trading hurts corporate interests, then blockchain presents another opportunity to protect those interests. As each shareholder, including insiders, would have a private and unique identification key on a blockchain-based registry, suspicious transactions could be recognized and scrutinized almost immediately—to the point where detection could likely be automated.

b. Empty Voting

Given that one of the traits of a blockchain-based registry is an accurate, real-time record of ownership, the chance to eliminate the maligned practice of “empty voting” is a significant incentive for corporations to adopt the practice. Empty voting is a strategy that, described simply, results in a person or entity obtaining the voting rights that come with stock ownership, but without taking true economic ownership.¹⁹² The most salient examples come from hedge

189. *Fast Answers: Insider Trading*, SEC (Jan. 15, 2013), <https://www.sec.gov/answers/insider.htm> [<https://perma.cc/27QU-ACZ4>].

190. See Thomas C. Newkirk, Assoc. Dir., Div. of Enf't, SEC, & Melissa A. Robertson, Senior Counsel, Div. of Enf't, SEC, *Insider Trading – A U.S. Perspective* (Sept. 19, 1998), <https://www.sec.gov/news/speech/speecharchive/1998/spch221.htm> [<https://perma.cc/L6E5-FTC6>].

191. Compare Peter J. Henning, *Why Insider Trading is Wrong*, N.Y. TIMES: DEALBOOK (Apr. 11, 2011, 3:51 PM), <http://dealbook.nytimes.com/2011/04/11/why-is-insider-trading-wrong> [<https://perma.cc/YP9V-CRWR>] (arguing in favor of the illegality of insider trading with a specific focus on the trial of Raj Rajaratnam), with HENRY G. MANNE, *INSIDER TRADING AND THE STOCK MARKET* (1966) (arguing that insider trading causes no actual harm).

192. “Empty Voting” and Other Fault Lines Undermining Shareholder Democracy: The Hunting Ground for Hedge Funds, LATHAM AND WATKINS, LLP (Apr. 2007), https://www.lw.com/upload/pubcontent/_pdf/pub1878_1.commentary.empty.voting.pdf [<https://perma.cc/VL3F-TE86>].

funds who assume the role of an activist investor.¹⁹³ These activist hedge funds use empty voting to assemble a large voting position to force their agendas on the target corporations without assuming the economic risk of owning such a large block of shares.¹⁹⁴

A notable instance of hedge fund abuse of empty voting occurred in 2004 when Richard Perry's fund, Perry Corporation ("Perry Corp."), used empty voting in an attempt to force a merger between Mylan Labs and King Pharmaceuticals.¹⁹⁵ The hedge fund owned seven million shares of King and, in an attempt to drive up the price of its position in King, Perry Corp. purchased a 9.9% stake in Mylan—making it the largest single Mylan shareholder at the time.¹⁹⁶ Then, Perry Corp. "entered into a series of swap transactions designed to hedge fully its financial exposure" which "had the effect of insulating Perry from movements in the Mylan share price."¹⁹⁷ The result was that Perry held no economic risk in the event that Mylan's share price declined, but nonetheless held a 10% voting bloc in the company.¹⁹⁸ Standing in opposition to the merger, famed corporate raider Carl Icahn loudly complained that the act was a "travesty of shareholders' rights."¹⁹⁹ Ultimately, Icahn increased his own position in Mylan and managed to block the merger²⁰⁰ while Perry Corp. was subject to an SEC enforcement action for failing to disclose its 10% position in Mylan per Rule 13d-1(b).²⁰¹ In another example, the Canadian telecommunications company Telus went through an empty-voting debacle very similar to Mylan in 2013.²⁰² A hedge fund, Mason Capital, managed to take a 20% stake in Telus, but through empty voting had absolutely no economic exposure.²⁰³ Further, Mason Capital used their voting position to oppose a proposed share consolidation that most other shareholders approved of as they stood

193. *See id.*

194. *Id.*

195. Henry T.C. Hu & Bernard Black, *The New Vote Buying: Empty Voting and Hidden (Morphable) Ownership*, 79 S. CAL. L. REV. 811, 816–17 (2006).

196. Jesse Eisinger, *Icahn Cries Foul At Perry's No-Risk Play In Takeover Fight*, WALL ST. J. (Dec. 15, 2004, 12:01 AM), <http://www.wsj.com/articles/SB110305047108299804> [https://perma.cc/36WN-VCMK].

197. *In re Perry Corp.*, Exch. Act Release No. 60,351, 96 SEC Docket 1240, 1240 (July 21, 2009).

198. Eisinger, *supra* note 196.

199. *Id.*

200. Val Brickates Kennedy, *King, Mylan Labs Terminate Merger*, MARKETWATCH (Feb. 28, 2005, 4:55 PM), <http://www.marketwatch.com/story/king-pharma-shares-slump-on-end-of-mylan-merger> [https://perma.cc/AWU3-RDC2].

201. Steven M. Haas, *SEC Resolves Empty Voting Action Involving King-Mylan Merger*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Aug. 19, 2009), <https://corpgov.law.harvard.edu/2009/08/19/sec-resolves-empty-voting-action-involving-king-mylan-merger/> [https://perma.cc/6FWQ-GUN6].

202. Wolf-Georg Ringe, *Empty Voting Revisited: The Telus Saga*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Apr. 22, 2013), <https://corpgov.law.harvard.edu/2013/04/22/empty-voting-revisited-the-telus-saga/> [https://perma.cc/37SU-R784].

203. TELUS Corp. v. Mason Cap. Mgmt., 2012 CanLII 403 (Can. B.C. S.C.).

to profit if the measure failed.²⁰⁴ As the share consolidation required a two-thirds majority to pass, low shareholder turnout coupled with Mason Capital's large position posed a real threat to the ability of Telus' board and shareholders to dictate corporate policy.²⁰⁵

Although it is unclear if empty voting is a universally widespread practice within hedge funds and other activist investors, the practice is generally not considered illegal despite presenting the opportunity for empty voters to force an action that is contrary to a corporation's interests. Delaware responded to concerns over empty voting by amending Section 112 of the Delaware General Corporation Law to give corporations the right to adopt bylaws that require "a minimum record of beneficial ownership, or duration of ownership" of its shares to partake in proxy voting.²⁰⁶ As it stands, the SEC solicited comments on an empty voting concept release,²⁰⁷ but has not yet taken binding action on empty voting, and courts have struggled to draw a bright line between legal and illegal empty voting.²⁰⁸

Much like the widespread adoption of Martin Lipton's famed "poison pill" strategy to combat hostile takeovers, the adoption of a blockchain-based registry would allow corporate management to implement an effective method for protecting legitimate corporate interests. The true ownership of any given share would be able to be ascertained instantly before the commencement of any proxy vote, and therefore empty voting could be headed off before becoming a legitimate threat to the will of the shareholders and the board. Given the difficulty that both regulators and courts experience when acting on the matter, the implementation of a blockchain platform is a method that could provide some finality for the problem without inviting more indecipherable precedent and convoluted case law.

The above benefits serve as two powerful examples of why a corporation might be interested in adopting a blockchain-based stock registry without the compulsion of the SEC. Yet, as mentioned above, once industry consensus has been achieved in regard to a migration to blockchain, the process must be guided by the SEC and the applicable SROs to create the uniformity and stability needed to maintain a thriving equity market. The historical example provided by the U.S. securities industry's cooperation with the SEC to resolve

204. Ringe, *supra* note 202.

205. Rita Trichur & Boyd Erman, *Telus Share-Consolidation Plan at Risk*, *GLOBE & MAIL* (Apr. 10, 2012), [https://beta.theglobeandmail.com/globe-investor/telus-share-consolidation-plan-at-risk/article4102870/?ref=http://www.theglobeandmail.com& \[https://perma.cc/KG4B-5W4T\]](https://beta.theglobeandmail.com/globe-investor/telus-share-consolidation-plan-at-risk/article4102870/?ref=http://www.theglobeandmail.com& [https://perma.cc/KG4B-5W4T]).

206. DEL. CODE ANN. tit. 8, § 112(1) (2017).

207. Press Release, SEC, SEC Votes to Seek Public Comment on U.S. Proxy System (Jul. 14, 2010), [https://www.sec.gov/news/press/2010/2010-122.htm \[https://perma.cc/EQ25-APTX\]](https://www.sec.gov/news/press/2010/2010-122.htm [https://perma.cc/EQ25-APTX]).

208. *See CSX Corp. v. Children's Inv. Fund Mgmt.* (UK), 654 F.3d 276, 296–97 (2d Cir. 2011).

the Paperwork Crisis shows that such a private-public partnership is possible—and perhaps preferable.

CONCLUSION

As evidenced by its strict liability standard and lack of scienter requirement, Section 11 was intended to be a powerful incentive for issuers to make accurate disclosures. With the introduction of Section 11's tracing requirement and the shift away from certificated securities, Section 11 has gradually lost its intentionally-designed enforcement powers. This Note has argued that the adoption of a national blockchain-based stock registry will help effectuate the truthful registration disclosures that Section 11 was meant to ensure. Further, the benefits that blockchain would create for regulators, investors, shareholders, and corporate managers show the technology's wide-ranging potential as an industry process improvement. The use of blockchain as a securities registry is not yet completely proven and is still years from attaining widespread usage, but its potential is, to borrow one of Steve Jobs' famous hyperboles, insanely great. Although much groundwork must be laid before a functional blockchain registry can be implemented, Patrick Byrne and his merry band of trailblazers have already set out to jumpstart interest in the technology and the enthusiastic response across the financial industry shows that it may not just be a flash in the pan. Only time will tell, but if recent developments say anything about where blockchain is heading, it is very likely that we are witnessing a watershed moment in the administration of securities.

