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Mandatory Financial Disclosures as Total Regulatory Takings

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In the aftermath of the GameStop phenomenon in early 2021, there have been increasing calls for expanded mandatory financial disclosures particularly regarding hedge funds and short selling. Efforts to increase disclosure requirements on hedge funds may implicate the Takings Clause of the Fifth Amendment. This comment argues that mandatory disclosure of a firm's total portfolio—its long, short, and derivative positions—constitutes an uncompensated taking of its trade secrets. This comment explores the application of current takings jurisprudence to trade secrets and financial disclosures. It concludes that the per se rule established in Lucas v. S.C. Coastal Council *should apply to public disclosures of trade secrets.*

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I. INTRODUCTION

In early 2021, the U.S. stock market experienced extraordinary volatility. Certain companies popular with retail investors, notably GameStop, were especially affected. In the aftermath of the GameStop phenomenon, there have been numerous calls for enhanced regulations on short selling and the hedge fund industry.[1] Proposals which call for extremely robust disclosure requirements may implicate trade secrets law and the Takings Clause of the Fifth Amendment.[2] Not all proposed changes to the current securities disclosure regime would constitute a taking, but laws that essentially require a firm to publicly disclose its entire portfolio, such as the proposed "Short Sale Transparency and Market Fairness Act,"[3] go far enough to be considered regulatory takings. Other reforms, such as disseminating aggregated data or public disclosure of certain positions that exceed a threshold, may avoid the takings issue.

Part II will give a background on the regulation of short selling and hedge funds. Part III will describe current regulatory takings jurisprudence as applied to trade secrets. Part IV will analyze the applicability of trade secrets law to financial information. Part V will advocate for the application of the *Lucas* categorical taking rule to trade secrets and analyze the outcome of this proposal on public disclosures of financial information. Part VI will conclude.

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[1] Dave Michaels & Dawn Lim, *GameStop Frenzy Prompts SEC to Weigh More Short Sale Transparency*, WALL ST. J. (Feb. 17, 2021), https://perma.cc/5HJW-R6CB; *see also* Aaron Cutler & Chase Kroll, *Preparing for the Regulatory Response to 'Meme' Stock Investing*, BLOOMBERG L. (June 18, 2021), https://perma.cc/2XCL-L8RR.

[2] *See* Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1003–04 (1984) (holding that trade secrets are a property right "protected by the Takings Clause of the Fifth Amendment").

[3] Short Sale Transparency and Market Fairness Act, H.R. 4618, 117th Cong. (2021).

II. BACKGROUND: GAMESTOP AND CURRENT HEDGE FUND REGULATION

A. GameStop, Hedge Funds and Short Selling in The Spotlight

In January 2021, the share price of GameStop Corp. (GME) experienced dramatic price volatility.[4] The spike in GameStop's stock price was caused by a confluence of factors: a large increase in trading volume, a large short interest, frequent mentions in investing forums, and coverage in mainstream media.[5] GameStop was heavily shorted even before the beginning of 2021. GameStop's short interest (the number of shares sold short divided by the number of outstanding shares) reached 50% in 2012, 2015, 2016, and 2018; from 2019 to early 2021, the short interest stayed consistently above 50%.[6] In April 2020, users of the social media platform Reddit began to notice that GameStop's short interest had reached 84%.[7] In contrast, short interest ratios for large non-financial stocks tend to be less than 2.5%.[8] During the 2008 Financial Crisis, only "12 stocks had short interest of more than 50% on a single record date."[9] By January 2021, the short interest in GameStop had grown to 122.97%,[10] and GameStop was the only stock with more shares shorted than shares outstanding.[11]

The monumental event in GameStop started on January 11, 2021 when Ryan Cohen, co-founder of Chewy, announced that he would be joining the GameStop board of directors. The announcement caused GameStop's stock price to rise by 17% to a high of $20.65.[12] By January 27, the GME price had increased by 1600% over its January 11 closing price to $347.51.[13] The average trading volume during this period was approximately 100 million shares traded per day, a 1400% increase over the 2020 average.[14] The number of accounts trading GME rose from fewer than 10,000 at the beginning of January to nearly 900,000 by the end of the

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4 U.S. SEC. & EXCH. COMM'N, STAFF REPORT ON EQUITY AND OPTIONS MARKET STRUCTURE CONDITIONS IN EARLY 2021 (Oct. 14, 2021), https://perma.cc/UYM3-6BV3 [hereinafter CONDITIONS IN EARLY 2021].

5 *Id.* at 17.

6 *Id.* at 24–25.

7 *Id.* at 18.

8 *Id.* at 25.

9 *Id.* at 25 n.76.

10 *Id.* at 21.

11 *Id.* at 25.

12 *Id.* at 18.

13 *Id.*

14 *Id.* at 18–19.

month.[15] GME prices fell to a low of $40.59 on February 19, but rose again and remain well above its December 2020 trading price.[16] GameStop was not the only stock to experience extreme volatility in January 2021.[17] Since the start of 2020, the US stock market has been experiencing heightened volatility with 134 common stocks experiencing a one-day price increase greater than GME's largest one-day price increase.[18]

Much of the interest in GameStop was generated by the desire to trigger a "short squeeze."[19] Short sellers are typically required to post collateral of at least 50% of their position with a broker-dealer.[20] A short squeeze is an event that "triggers short sellers en masse to purchase shares to cover their short positions."[21] A "sudden increase in the price of the stock being shorted" will require short sellers "to post additional collateral or to exit their position" by buying the underlying stock.[22] When short sellers cover their positions by buying the underlying stock, there is "additional upward price pressure," causing other short sellers to cover their positions and driving the price even higher.[23]

While the Securities and Exchange Commission (SEC) found evidence that this kind of buying to cover did occur, it found that "such buying was a small fraction of overall buy volume."[24] The rise in GME shares was primarily driven by positive sentiment, but "the underlying motivation of such buy volume cannot be determined" and may have been "motivated by the desire to maintain a short squeeze."[25] Some hedge funds that had shorted GME closed their positions in January 2021 and realized significant losses, while others "joined the market rally to trade profitably."[26]

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15 *Id.* at 20.

16 *Id.* at 21.

17 *Id.* at 22 ("[S]ingle-day price changes on January 27 from the closing prices on January 26 for KOSS (480.0%), AMC (301.2%), NAKD (252.3%), and Express, Inc. (symbol: EXPR) (214.1%) were larger than any single-day GME price change.").

18 *Id.* at 22.

19 *Id.* at 19 (finding that some shareholders believed that the GME was undervalued while "others contended that unusually high levels of short interest in GME presented the potential for a coordinated 'short squeeze.'").

20 *Id.* at 24 n.74.

21 *Id.* at 25.

22 *Id.*

23 *Id.*

24 *Id.* at 26.

25 *Id. But see* Memorandum from Majority Staff, H.R. Comm. on Fin. Servs., to Members, H.R. Comm. on Fin. Servs. (Feb. 15, 2021) [hereinafter FSC Majority Staff] ("Social media users collectively drove the stock prices up, forcing short sellers who bet the stock price would go down, to purchase shares at an increased price.").

26 CONDITIONS IN EARLY 2021, *supra* note 4, at 22.

Prominent hedge funds such as Point 72, Melvin Capital, Citron Capital,[27] and White Square Capital experienced large losses.[28]

The SEC, Financial Industry Regulatory Authority (FINRA), and Congress have all announced that they are considering regulatory or legal responses to the GameStop phenomenon. FINRA and the SEC are investigating the event and are likely to propose new rules such as increased disclosure requirements related to short selling.[29] For example, SEC Chair Gary Gensler stated that he was considering changes to "13-F filing requirements and short selling disclosures."[30] FINRA CEO Robert Cook is also considering "increasing disclosure requirements" but believes that "the SEC has primary policymaking responsibility" for this issue.[31] The SEC has rule-making authority over short selling disclosures, but "generally they have not done much."[32] Some SEC officials have acknowledged that "it could have been useful during [GameStop] to have a repository of data to draw on for a fuller picture."[33] However, "it isn't clear if having the information would have prevented such a squeeze."[34]

In 2021, the House Committee on Financial Services held multiple hearings responding to the GameStop event.[35] It also considered new legislation to address online financial information and short selling.[36] The Committee promulgated multiple pieces of draft legislation including bills aimed at regulating family

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27 Shalini Nagarajan & Harry Roberts, *These Hedge Funds Have Gotten Torched by The Wall Street Bets Army that Targeted Their Short Positions in GameStop*, BUS. INSIDER (Jan. 28, 2021), https://perma.cc/Q4NU-8BB3.

28 Robert Hart, *London-Based Hedge Fund Closes After Betting Against GameStop, Becoming One of First Meme Stock Casualties*, FORBES (Jun. 22, 2021), https://perma.cc/8WT7-CZEA.

29 Cutler & Kroll, *supra* note 1.

30 *Id.*

31 *Id.*

32 Michaels & Lim, *supra* note 1; *see also* Cutler & Kroll, *supra* note 1; Katanga Johnson, *U.S. SEC Chair Says Reviewing Short-Selling, Swap Rules After Gamestop, Archegos Sagas*, REUTERS (May 5, 2021), https://perma.cc/KH5A-5QCQ.

33 Michaels & Lim, *supra* note 1.

34 *Id.*

35 *See* FSC Majority Staff, *supra* note 25, at 1; Memorandum from Majority Staff, H.R. Comm. on Fin. Servs., to Members, H.R. Comm. on Fin. Servs. (Mar. 15, 2021); Memorandum from Majority Staff, H.R. Comm. on Fin. Servs., to Members, H.R. Comm. on Fin. Servs. (May 6, 2021).

36 FSC Majority Staff, *supra* note 25, at 1 ("For some, the January short squeeze raises questions regarding whether legislators and regulators should take a closer look at existing rules governing short sales and related disclosures . . . . It also raises important questions about the efficacy of anti-market manipulation laws and whether technology and social media have outpaced regulation in a manner that leaves investors and the markets exposed to unnecessary risks.").

offices,[37] studying "the gamification of online trading platforms,"[38] prohibiting brokers from incentivizing options trading,[39] prohibiting payments for order flow,[40] and prohibiting "trading ahead."[41]

One of the Committee's proposals is the "Short Sale Transparency and Market Fairness Act," which would amend 15 U.S.C. 78m(f) to require investment managers to disclose "covered" securities instead of "equity securities."[42] Currently, hedge funds with over $100 million in assets under management are required to make quarterly 13F reports which publicly disclose the "name of the issuer . . . number of shares . . . and aggregate fair market value of each" equity security they hold.[43] In essence, these report present a snapshot of the investment manager's portfolio holdings at the end of the quarter.[44] The proposed legislation would expand these reporting requirements. It defines "covered security" as an "equity security" or "a direct or indirect derivative interest or position (including a security-based swap) in an equity security."[45] The bill also mandates monthly, instead of quarterly reporting, and shortens the reporting delay to just ten business days after the end of each month.[46] Additionally, the bill requires the SEC to "issue rules implementing . . . section 929X" of the Dodd-Frank Act, which requires public disclosure of short sales.[47] This proposed legislation would effectively require large investment managers to publicly disclose their entire portfolio on a monthly basis.

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37 H.R. COMM. ON FIN. SERVS., 117th Cong., Discussion Draft (Apr. 29, 2021), https://perma.cc/RF9L-H2H3.

38 H.R. COMM. ON FIN. SERVS., 117th Cong., Discussion Draft (May 3, 2021), https://perma.cc/Y2QK-L39G.

39 H.R. COMM. ON FIN. SERVS., 117th Cong., Discussion Draft (Apr. 20, 2021), https://perma.cc/PMC6-ZVYX.

40 Payment for order flow is when a broker pays to have customer orders routed through its system. *See* H.R. COMM. ON FIN. SERVS., 117th Cong., Discussion Draft (May 3, 2021), https://perma.cc/T6TJ-EUBK.

41 Trading ahead is when a broker purchases shares on its own behalf after receiving a customer order to purchase those shares. *See* H.R. COMM. ON FIN. SERVS., 117th Cong., Discussion Draft (May 3, 2021), https://perma.cc/H6BM-YCKT.

42 Short Sale Transparency and Market Fairness Act, H.R. 4618, 117th Cong. (2021).

43 15 U.S.C. § 78m(f)(1); *see also* 17 C.F.R. § 240.13f–1.

44 *See* Edward Pekarek, *Hogging the Hedge: Bulldog's 13F Theory May Not Be So Lucky*, 12 FORDHAM J. CORP. & FIN. L. 1079, 1085–86 (2007) ("[13F] disclosures reveal to the public certain aspects of a non-exempt investment manager's portfolio holdings in a 'snapshot' format.").

45 H.R. 4618, 117th Cong. § 2 (2021).

46 *Id.*

47 *Id.* at § 3; 15 U.S.C. § 78m(f)(2).

B. Background on Hedge Funds and Short Selling

A hedge fund is a "pooled alternative investment vehicle that is professionally managed and whose investors are of the highest sophistication."[48] The hedge fund industry consists of over ten thousand funds that manage over $3 trillion in assets.[49] Hedge funds currently do not register with the SEC,[50] which allows them to engage in activities that mutual funds are legally prohibited from undertaking. Hedge funds can "trade derivatives, utilize leverage, invest in illiquid assets . . . and take on much more risk."[51] Hedge funds tend to perform better than other investment vehicles during market downturns because of this flexibility.[52] Hedge funds play an important role in enhancing market liquidity and efficiency. In illiquid markets, hedge funds are often the only firms "willing to make long and short trades where others would steer clear," increasing liquidity and the accuracy of pricing.[53]

When a firm shorts a stock, it borrows shares of the stock, sells them at market price, and, at a later date, buys those shares back to return them to the lender.[54] Short selling is a way of betting that the price of the stock will go down between the time the shares are borrowed and then returned. Short selling incentivizes "individuals to uncover negative information (such as fraud)."[55] Additionally, short selling can reduce market volatility.[56] But short selling can be used as a predatory tool to exploit vulnerable companies and drive them into insolvency.[57] For example, former Lehman Brothers CEO Dick Fuld believes that speculative short sellers doomed Lehman Brothers and Bear Steans in the 2008

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48 Christian Bonser, *If You Only Knew the Power of the Dark Side: An Analysis of the One-Sided Long Position Hedge Fund Public Disclosure Regime and a Call for Short Position Inclusion*, 22 FORDHAM J. CORP. & FIN. L. 327, 333 (2017).

49 *Id.* at 333.

50 Erin E. Martin, *The Intersection Between Finance and Intellectual Property: Trade Secrets, Hedge Funds, and Section 13(f) of the Exchange Act*, 53 N.Y. L. SCH. L. REV. 575, 584 (2008).

51 Bonser, *supra* note 48, at 333.

52 Cary M. Shelby, *Closing the Hedge Fund Loophole: The SEC as the Primary Regulator of Systemic Risk*, 58 B.C. L. REV. 639, 679–80 (2017); *see also* Bonser, *supra* note 48, at 333.

53 Bonser, *supra* note 48, at 336.

54 Adam Hayes, *Short Selling*, INVESTOPEDIA (Jan. 2, 2022), https://perma.cc/73PK-7BTN.

55 CONDITIONS IN EARLY 2021, *supra* note 4, at 24 n.74.

56 *Id.* ("[S]horts can reduce irrational exuberance when stocks are going up, and covering shorts acts as upward pressure on declining stocks.").

57 Bonser, *supra* note 48, at 343.

Financial Crisis.[58] One short selling strategy that is particularly controversial is the "short and distort," where short sellers spread negative information about a target company in order to induce "a panic and a run on the stock price."[59] In essence, a short seller can spread rumors to drive down the share price of a target and then profit before the market can figure out that the rumors are false. There are over 100 short selling attacks every year.[60] Some scholars have argued that "a disclosure regime requiring public reporting of short positions would go a long way to detect and deter this abusive activity."[61]

C. Current Hedge Fund Disclosure Requirements

Hedge funds are required to publicly disclose their equity holdings (also known as long positions) in Form 13F, which is filed with the SEC forty-five days after the end of each quarter. [62] The forty-five day delay has been criticized as being too far away from the end of the quarter to be useful, and hedge fund managers can take advantage of this waiting period to avoid revealing their trading strategies sooner than required.[63] Hedge funds are not required to disclose short positions, borrowed securities, short derivative positions, or positions in non-equity securities.[64] The types of investments required to be publicly disclosed have not changed since 1975, when section 13(f) of the Securities Exchange Act of 1934 was enacted, despite the fact that complex investments and positions are much more common today.[65]

Currently, investment managers subject to 13(f) requirements (under 15 U.S.C. 78m(f)) can request that their filings be treated as confidential.[66] The SEC can exempt a Form 13F filing

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58 Heidi N. Moore*, Dick Fuld's Vendetta Against Short-Sellers—and Goldman Sachs*, WALL ST. J. (Oct. 7, 2008), https://perma.cc/N2R9-QA59.

59 John C. Coffee, Jr. & Joshua Mitts, *Petition for Rulemaking on Short and Distort*, CLS BLUE SKY BLOG (Feb. 18, 2020), https://perma.cc/4U33-X569.

60 Thomas M. J. Mollers, *Market Manipulation Through Short Selling Attacks and Misleading Financial Analyses*, 53 INT'L L. 91, 94 (2020).

61 Bonser, *supra* note 48, at 344.

62 Adam Hayes, *What Is the SEC Form 13f?*, INVESTOPEDIA (Oct. 28, 2021), https://perma.cc/685G-GCP8.

63 *Id.*

64 Bonser, *supra* note 48, at 347.

65 *Id.* at 369.

66 15 U.S.C. § 78m(f)(3) ("The Commission, by rule, or order, may exempt, conditionally or unconditionally, any institutional investment manager or security or any class of institutional investment managers or securities from any or all of the provisions of this subsection or the rules thereunder.").

from public disclosure under Rule 24b-2.[67] To request confidential treatment, the manager must provide a basis for objecting to public disclosure based on the criteria of the Freedom of Information Act (FOIA).[68] Specifically, the request for confidentiality must meet the demands of FOIA Exemption 4, which applies to trade secrets and commercial or financial information.[69] The exemption has limited duration, and the firm "must demonstrate how its proprietary strategy would be divulged if the particular securities were disclosed, how the particular securities relate to its overall investment strategy, and how the public would be able to detect the strategy as a result of the disclosure."[70] The request must include "a description of the investment strategy," "a demonstration that the revelation of the investment strategy would be premature," and "a demonstration that failure to grant the request . . . would be likely to cause substantial harm to the Manager's competitive position."[71] A firm cannot request confidential treatment for its entire Form 13F filing; instead it must request confidential treatment for each specific position.[72] The SEC is given deference in these decisions as they are reviewed under the arbitrary and capricious standard.[73]

Firms may request confidential treatment for their 13F filing in order to protect their trading strategy, but the applicable standard is difficult to meet. The hedge fund Two Sigma requested confidential treatment for its 13F filings because "disclosure of any or all of its securities positions would leave its investment strategy vulnerable to reverse engineering; and (2) successful, or even partial, reverse engineering would adversely affect [its] 'ongoing investment strategy.'"[74] The SEC denied Two Sigma's request because 13F filings, which only require disclosure of equity holdings, do not contain enough information for a competitor to reverse engineer an investment strategy.[75] Additionally, the forty-five day delay sufficiently protects trading strategies from being reverse-engineered by competitors.[76]

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67 17 C.F.R. § 240.24b–2.

68 Bonser, *supra* note 48, at 348; *see also* 5 U.S.C. § 552.

69 Martin, *supra* note 50, at 588; *see also* 5 U.S.C. § 552(b)(4).

70 Bonser, *supra* note 48, at 349.

71 *In re Two Sigma Invs., LLC*, Exchange Act Release No. 52135, 2005 WL 1802398, at *2 (July 27, 2005).

72 *Id.* at *5 ("[A] Manager must discuss each holding separately . . . .").

73 Martin, *supra* note 50, at 589.

74 In re Two Sigma Invs., LLC, 2005 WL 1802398, at *3.

75 *Id.*

76 *Id.*

D. Previous Attempts to Regulate the Hedge Fund Industry

There have been numerous calls for increased regulation of hedge funds, particularly calls for increased disclosure requirements. In 2004, the SEC attempted to assert jurisdiction over the hedge fund industry through the "Hedge Fund Rule," a regulation that interpreted the Advisers Act[77] to include hedge funds.[78] Essentially, the rule would have required hedge funds to register with the SEC, subjecting them to much more regulation.[79] Investment advisor Phillip Goldstein challenged the SEC's statutory authority to regulate the hedge fund industry.[80] The D.C. Circuit ruled against the SEC, holding that the rule change was arbitrary.[81] Professor Cary Martin Shelby posits that *Goldstein v. SEC* implies that the SEC does not have sufficient statutory authority to oversee hedge funds and that regulation of the industry requires new legislation.[82]

Although the SEC does not have direct authority to regulate hedge funds, it does have authority over the reporting requirements of the 13(f) public disclosure regime. The SEC considered implementing a real-time reporting system for short selling but concluded that this proposal would not be cost-effective.[83] Its study addressed the addition of short selling data to the Consolidated Tape reporting system.[84] Consolidated Tape "is a high-speed, electronic system that reports the latest price and volume data on sales of exchange-listed stocks."[85] This proposal would have allowed regulators to study and track short selling in real time, possibly preventing short squeeze situations such as GameStop. Unlike Form 13F disclosures, Consolidated Tape shows aggregated market data, so there is no risk of reverse-engineering a particular firm's investment strategy.

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77 15 U.S.C § 80b–1(3).

78 Pekarek, *supra* note 44, at 1087; *see also* Shelby, *supra* note 52, at 667.

79 Pekarek, *supra* note 44, at 1087; *see also* Shelby, *supra* note 52, at 667.

80 Goldstein v. SEC, 451 F.3d 873 (D.C. Cir. 2006).

81 *Id.* at 884.

82 *Shelby*, *supra* note 52, at 667.

83 DIV. OF ECON. & RISK ANALYSIS, U.S. SEC. & EXCH. COMM'N, SHORT SALE POSITION AND TRANSACTION REPORTING (June 5, 2014), https://perma.cc/GF4E-83W2 ("The Division concludes that none of these alternatives is likely to be cost-effective when compared to the baseline.").

84 *Id.* at 33–63.

85 *Consolidated Tape*, U.S. SEC. & EXCH. COMM'N, https://perma.cc/8Y3L-7GKG (last visited Feb. 7, 2022).

Section 929X of the Dodd-Frank Act authorizes the SEC to create monthly short-position disclosure requirements.[86] The SEC has not promulgated rules on short selling disclosures, so it is still unclear how this provision will be implemented. Because Section 929X was codified in the same subsection as the 13(f) reporting requirements, Congress presumably intended for short selling disclosures to be added to the current 13(f) reporting regime. Confusingly, however, 15 U.S.C. 78 (f)(1) states that "in no event shall such [13F] reports be filed for periods longer than one year or shorter than one quarter,"[87] whereas short selling disclosure must "at a minimum . . . occur every month."[88] Like Section 78(f)(1), Section 78(f)(2) only explicitly requires public disclosure of the information in the report, not the name of the manager filing the report. Some have, therefore, interpreted Section 929X as requiring public disclosure of aggregate short-selling data.[89] Given the similarity and proximity of Section 929X to 13(f) reporting requirements, it seems likely that short selling disclosures would also include the filer's information.

Previous attempt to expand hedge fund disclosure requirements have failed. For example, in 2015 the New York Stock Exchange (NYSE) petitioned the SEC to implement mandatory disclosures of hedge fund short positions pursuant to Section 984(b) of the Dodd-Frank Act.[90] This provision empowers the SEC to issue regulations on short selling "as necessary or appropriate in the public interest or for the protection of investors."[91] Similarly, NYSE, Nasdaq, and Herbalife (after being the target of a short squeeze) proposed a bill requiring short-sellers to disclose any "interest in an equity security that is more than 5 percent of the

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86 15 U.S.C. § 78m(f)(2) ("The Commission shall prescribe rules providing for the public disclosure of the name of the issuer and the title, class, CUSIP number, aggregate amount of the number of short sales of each security, and any additional information determined by the Commission following the end of the reporting period. At a minimum, such public disclosure shall occur every month.").

87 15 U.S.C. § 78m(f)(1).

88 15 U.S.C. § 78m(f)(2).

89 Letter from Richard H. Baker, President & CEO, Managed Funds Ass'n, to James A. Brigagliano, Deputy Dir., Div. of Trading & Mkts., U.S. Sec. & Exch. Comm'n (Feb. 7, 2011), https://perma.cc/Y6LL-YFMJ ("A plain reading of the language in Section 929X(a) requires the SEC to issue rules providing for aggregate public disclosure of short sales, not disclosure of individual markets participant's short sales.").

90 Petition for Rulemaking from Elizabeth King, Corp. Sec'y, NYSE Grp., Inc., to Brent J. Fields, Sec'y, U.S. Sec. & Exch. Comm'n (Oct. 7, 2015), https://perma.cc/JBQ3-P7KW.

91 15 U.S.C §§ 78j(a)(1)–(c)(2).

security's average reported weekly trading volume."[92] This proposal mirrored 15 U.S.C. § 78m(d), which requires the disclosure of the identity of any person who acquires more than 5 percent of a publicly traded equity security.[93] Nasdaq has also requested that the SEC "take swift action to promulgate rules to require public disclosure . . . of short positions in parity with the disclosure regime applicable to long positions." [94]

Calls for enhancing hedge fund public disclosure requirements have also come from academia.[95] One article has argued that a more robust disclosure regime may actually benefit the hedge fund industry by allowing investors to better compare the performance of competing firms.[96] At least one article, however, has argued against enhancing hedge fund disclosure requirements and advocated for hedge funds to be automatically exempt from 13(f) filing requirements due to the risk of their trading strategies being reverse-engineered.[97]

III. TAKINGS LAW AND TRADE SECRETS

A. Current State of Takings Law

The Fifth Amendment of the Constitution provides that "private property [shall not] be taken for public use, without just compensation."[98] For most of its history, the Takings Clause was interpreted as applying only to the government's physical appropriation of private property.[99] In 1922, Justice Holmes's opinion in *Pennsylvania Coal Co. v. Mahon*[100] established the

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92 Michelle Celarier, *The Dangers of Short-Selling Disclosure*, INSTITUTIONAL INV. (Mar. 29, 2018), https://perma.cc/85KC-7QLF.

93 15 U.S.C. § 78m(d)(1).

94 Letter from Edward S. Knight, Exec. Vice President, NASDAQ, to Brent J. Fields, Sec'y, U.S. Sec. & Exch. Comm'n (Dec. 7, 2015), https://perma.cc/WUZ5-GFJR.

95 *See* Bonser, *supra* note 48, at 373 ("Form 13F should be expanded to include short positions.").

96 Shelby, *supra* note 52, at 694.

97 Martin, *supra* note 50, at 591.

98 U.S. CONST. amend. V.

99 *See* Cedar Point Nursery v. Hassid, 141 S. Ct. 2063, 2071 (2021) ("Before the 20th century, the Takings Clause was understood to be limited to physical appropriations of property."). For a history of the takings clause, see also *Horne v. Department of Agriculture*, 576 U.S. 351, 358–60 (2015). Professor Adam Mossoff argues, however, that the Takings Clause did historically apply to patent rights. *See* Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689, 700–724 (2007).

100 260 U.S. 393 (1922).

concept of regulatory takings.[101] *Mahon* concerned a Pennsylvania law that prohibited certain types of coal mining near buildings in order to prevent subsidence.[102] The Court held that, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."[103] Because the right to mine coal is only valuable when "it can be exercised with profit," a law making "it commercially impracticable to mine certain coal has very nearly the same effect for constitutional purposes as appropriating or destroying it."[104] The Court ruled in favor of the mine owners because the value of their property was substantially reduced,[105] but cautioned that "Government hardly could go on" if every action that decreased property value constituted a taking.[106] Property rights are subject to "implied limitation and must yield to the police power."[107] However, the public interest motivating a regulation must be "sufficient to warrant so extensive a destruction of the defendant's constitutionally protected rights."[108] The Court refused to establish any bright-line rules for regulatory takings since "this is a question of degree—and therefore cannot be disposed of by general propositions."[109]

Modern regulatory takings jurisprudence continues to reject definitive rules and instead applies "essentially ad hoc, factual inquiries designed to allow careful examination and weighing of all the relevant circumstances."[110] There are currently, however, two tests to determine when a regulatory taking has occurred.[111] One test, applied in *Penn Central Transportation Co. v. New York City*,[112] balances "factors such as the economic impact of the

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[101] *See* Murr v. Wisconsin, 137 S. Ct. 1933, 1957 (2017) (Thomas, J., dissenting) ("[P]rior to *Mahon,* it was generally thought that the Takings Clause reached only a 'direct appropriation' of property or the functional equivalent of a 'practical ouster of [the owner's] possession.") (internal citations omitted).

[102] *Mahon*, 260 U.S. at 412–413.

[103] *Id.* at 415.

[104] *Id.* at 414.

[105] *Id.* at 413 ("One fact for consideration in determining such limits is the extent of the diminution. When it reaches a certain magnitude, in most if not in all cases there must be an exercise of eminent domain and compensation to sustain the act.").

[106] *Id.*

[107] *Id.*

[108] *Id.* at 414–16 ("We are in danger of forgetting that a strong public desire to improve the public condition is not enough to warrant achieving the desire by a shorter cut than the constitutional way of paying for the change.").

[109] *Id.* at 416.

[110] Murr v. Wisconsin, 137 S. Ct. 1933, 1937 (2017) (quoting Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 322 (2002)).

[111] *Id.* at 1942 ("The Court has, however, stated two guidelines . . . for determining when government regulation is so onerous that it constitutes a taking.").

[112] 438 U.S. 104 (1978).

regulation, its interference with reasonable investment-backed expectations, and the character of the government action."[113] The other test was established in *Lucas v. South Carolina Coastal Council*,[114] which held that a regulation which "denies all economically beneficial or productive use of land" constitutes a per se taking.[115] This comment argues that the categorical takings rule in *Lucas* should apply to regulatory takings of trade secrets.

B. Current Takings Law Jurisprudence and Trade Secrets

In *Ruckelshaus v. Monsanto*,[116] the Supreme Court held that "data cognizable as a trade-secret property right . . . is protected by the Takings Clause of the Fifth Amendment."[117] The Court analyzed the claim using the *Penn Central* test and found that the investment-backed expectations factor was dispositive.[118] The case concerned the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which required "that all pesticides be registered . . . prior to their sale in interstate or foreign commerce."[119] Under FIFRA, manufacturers seeking to sell a new pesticide were required to "submit test data" and "the formula for the pesticide" to the Environmental Protection Agency (EPA) for approval.[120] The original version of FIFRA "was silent with respect to the disclosure of any of the health and safety data submitted with an application."[121] In 1972, FIFRA was amended so that "the submitter of data could designate any portions of the submitted material . . . [as] trade secrets" and the EPA was prohibited from publicly disclosing this information.[122] The 1978 amendment to FIRFA gave applicants exclusive use of all submitted data for ten years, but any data could be disclosed publicly when this period

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113 Cedar Point Nursery v. Hassid, 141 S. Ct. 2063, 2072 (2021) (citing *Penn Central*, 438 U.S. at 124).

114 Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1015 (1992).

115 *Id.*; *see also Murr*, 137 S. Ct. at 1942 (quoting Palazzolo v. Rhode Island, 533 U.S. 606, 617 (2001)) ("[W]ith certain qualifications . . . a regulation which 'denies all economically beneficial or productive use of land' will require compensation under the Takings Clause.").

116 467 U.S. 986 (1984).

117 *Id.* at 1003–04.

118 *Id.* at 1005 ("[W]e find that the force of [the reasonable investment-backed expectations factor] is so overwhelming, at least with respect to certain of the data submitted by Monsanto to EPA, that it disposes of the taking question regarding those data.")

119 *Id.* at 991.

120 *Id.*

121 *Id.* at 991.

122 *Id.* at 992.

expired.[123] The Court's takings analysis examined each FIFRA disclosure regime (pre-1972, 1972-1978, and post-1978) separately.[124]

The Court held that pre-1972 FIFRA did not constitute a taking because applicants had no expectation of confidentiality for data submitted to the EPA; Monsanto, therefore, had no reasonable investment-backed expectation that its data would remain secret.[125] This was especially true given the fact that Monsanto operated "in an industry that long has been the focus of great public concern and significant government regulation."[126] Similarly, data submitted to the EPA after 1978 was not a taking because "Monsanto could not have had a reasonable, investment-backed expectation that EPA would keep the data confidential beyond" the exclusive use period.[127] The existence of an exclusive use period implied that the EPA could use the data in any way after the period ended. Monsanto was also aware that, after the period ended, "EPA could use the data without Monsanto's permission" and that the data "could be disclosed to the general public."[128] Because Monsanto voluntarily "chose to submit the requisite data in order to receive a registration, it can hardly argue that its reasonable investment-backed expectations are disturbed when EPA acts to use or disclose the data in a manner that was authorized by law at the time of the submission."[129] Importantly however, the Supreme Court ruled that between 1972 and 1978, FIFRA constituted a regulatory taking of trade secrets.[130] Between 1972 and 1978, FIFRA's confidentiality framework created an "explicit governmental guarantee" which "formed the basis of a reasonable investment-backed expectation."[131]

In addition to holding that trade secrets are protected by the Fifth Amendment, *Monsanto* also defined what trade secrets are under the Takings Clause. Prior to *Monsanto*, the EPA had argued that statutory exemptions for trade secrets "applied only to a narrow range of information, principally statements of formulae

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123 *Id.* at 994.

124 *Id.* at 1005–1014.

125 *Id.* at 1008 ("[A]bsent an express promise, Monsanto had no reasonable, investment-backed expectation that its information would remain inviolate in the hands of EPA.").

126 *Id.*

127 *Id.* at 1006.

128 *Id.*

129 *Id.* at 1006–1007.

130 *Id.* at 1020.

131 *Id.* at 1011.

and manufacturing processes."[132] Lower courts ruled against the EPA and held "that the term 'trade secrets' applied to any data . . . that met the definition of trade secrets set forth in Restatement of Torts § 757 (1939)."[133] The Supreme Court affirmed the rulings of the lower courts—the research and test data, not just the pesticide formula, was constitutionally protected.[134] Research data was held to be a trade secret because the development process for a pesticide was long and expensive.[135] Testing was necessary to apply for EPA approval, but the test data also had "value to Monsanto beyond its" use in the application and "would also be valuable to Monsanto's competitors."[136] Additionally, Monsanto had "stringent security measures to ensure the secrecy of the data."[137]

The Court ruled that submitting data to the EPA (between 1972 and 1978) constituted a taking because public disclosure of a trade secret effectively extinguishes the trade secret property right.[138] The right to exclude is important for all property, but "with respect to a trade secret, the right to exclude others is central to the very definition of the property interest."[139] When trade secret data "are disclosed to others, or others are allowed to use those data, the holder of the trade secret has lost his property interest in the data."[140] The fact that Monsanto could continue to use the data after disclosure "is irrelevant to the determination of the economic impact of the EPA action on Monsanto's property right."[141]

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132 *Id.* at 993.

133 *Id.*

134 *Id.* at 998.

135 *Id.* ("[D]evelopment of a potential commercial pesticide candidate typically requires the expenditure of $5 million to $15 million annually for several years. The development process may take between 14 and 22 years, and it is usually that long before a company can expect any return on its investment.").

136 *Id.*

137 *Id.*

138 *Id.* at 1002 ("If an individual discloses his trade secret to others who are under no obligation to protect the confidentiality of the information, or otherwise publicly discloses the secret, his property right is extinguished"). For a critique of *Monsanto* advocating for treatment of trade secrets like physical takings, see Richard A. Epstein, *The Constitutional Protection of Trade Secrets Under the Takings Clause*, 71 U. CHI. L. REV. 57, 61–68 (2004).

139 *Monsanto*, 467 U.S. at 1011.

140 *Id.*

141 *Id.* at 1012; *see also* Epstein, *supra* note 138, at 62 ("[W]here the holder of a trade secret is allowed to continue to practice the secret himself, but is not permitted to exclude others . . . [his] residual right is not wholly worthless . . . [b]ut it hardly follows that the reduction from a position of dominance to one of parity does not court as a loss.").

In *Philip Morris, Inc. v. Reilly*,[142] the First Circuit ruled that a Massachusetts law (the Disclosure Act) requiring tobacco companies to publicly disclose their products' ingredients constituted a regulatory taking.[143] The tobacco companies argued that the *Lucas* categorical rule should apply to their claim, but the court refused to apply a per se rule since "*Lucas* dealt with real, not personal, property."[144] The court followed the precedent set by *Monsanto* and analyzed the takings claim under *Penn Central*.[145] The First Circuit noted, however, that *Monsanto*, "failed to address any physical takings cases, and therefore failed to resolve whether trade secrets can be the subjects of physical takings."[146] The court also noted that the outcome of the case would have been the same under "a regulatory takings analysis or a per se rule."[147] Unlike *Monsanto*, which dealt with changes to an already existing disclosure regime, *Philip Morris* dealt with a new law. While *Monsanto* held that the FIFRA regime prior to 1972 did not implicate the Takings Clause, the First Circuit held that the new tobacco disclosure requirement did constitute a taking. The court considered the Disclosure Act an attempt to "simply redefine property rights without regard to previously existing protections."[148]

Applying the Takings Clause to financial disclosures is not a novel idea. In 2006, hedge fund manager Phillip Goldstein applied for a Form 13F filing exemption, arguing that "compulsory disclosure pursuant to Section 13(f) is an unconstitutional regulatory taking" of trade secrets.[149] In February 2021, Nasdaq, NYSE, and Cboe Global Markets sued the SEC to prevent the implementation of a plan which would force them to make stock market supply and demand data publicly available.[150] The group argues that forcing this data to be publicly available would "amount to an unconstitutional seizure of its property."[151]

The application of the Takings Clause to financial disclosures has been litigated only once, but the case did not rule on the

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142 312 F.3d 24, 29 (1st Cir. 2002).

143 *Id.* at 46 ("[T]he Disclosure Act violates the Takings Clause by taking appellees' property without just compensation.").

144 *Id.* at 35.

145 *Id.*

146 *Id.* at 33–35.

147 *Id.* at 36.

148 *Id.* at 39.

149 Pekarek, *supra* note 44, at 1084.

150 Alexander Osipovich, *Nasdaq, NYSE Sue SEC to Block Market Data Overhaul*, WALL ST. J. (Feb. 9, 2021), https://perma.cc/N6TA-7TDR.

151 *Id.*

merits of the issue. In *Full Value Advisors, LLC v. SEC,*[152] an investment firm sought a permanent exemption from Section 13(f) by arguing that public disclosure amounted to a regulatory taking of its trade secrets.[153] Because the plaintiff had not disclosed any information to the SEC, the SEC had not officially decided whether to grant an exemption.[154] Because the D.C. Circuit Court of Appeals held that the case was unripe, it did not rule on whether the firm's equity holdings constituted a trade secret or whether public disclosure constituted a taking of those trade secrets.[155] Thus, whether financial disclosures are protected by the Takings Clause remains an open question.

IV. HEDGE FUND FINANCIAL INFORMATION AS TRADE SECRETS

A. Definitions of Trade Secrets

Although *Monsanto* and *Philip Morris* held that trade secrets constituted constitutionally protected property, these cases looked at state law to determine whether trade secrets constituted cognizable property.[156] The landscape of trade secrets law has changed dramatically since these cases were decided. Today, almost all states have adopted the Uniform Trade Secrets Act (UTSA), and trade secrets are also protected by Federal statute.[157] One of the purposes of the Defend Trade Secrets Act of 2016 (DTSA) was "to bring the Federal definition of a trade secret in conformity with the definition used in the Uniform Trade Secrets Act."[158] It defines "trade secret" as

> [A]ll forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes,

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152 633 F.3d 1101 (D.C. Cir. 2011).

153 *Id.* at 1104–05.

154 *Id.* at 1107 ("Full Value's takings claim cannot possibly be in a "concrete and final form" . . . unless and until the Commission denies the Fund's satisfactorily detailed request and threatens public disclosure of its purported property.").

155 *Id.* at 1110 ("To the extent Full Value's claims rest on potential public disclosures of its investment positions, they are not ripe.").

156 Ruckelshaus v. Monsanto, 467 U.S. 986, 1003–04 (1984) ("To the extent that Monsanto has an interest in its . . . trade-secret property right under Missouri law, that property right is protected by the Takings Clause of the Fifth Amendment."); *see also Philip Morris, Inc. v. Reilly*, 312 F.3d 24, 31 (1st Cir. 2002) ("In most states, trade secrets are property protected by the Takings Clause . . . and neither side disputes that Massachusetts has long recognized and protected trade secrets.").

157 *Trade Secret Fundamentals*, PERKINS COIE (2018), https://perma.cc/9NP8-JNMT.

158 H.R. DOC. NO. 114–529, at 13 (2016).

> procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if—
> (A) the owner thereof has taken reasonable measures to keep such information secret; and
> (B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information"[159]

This expansive definition provides strong federal protections against trade secret misappropriation. The DTSA also created a private civil action for misappropriation of trade secrets, which implies that trade secrets are cognizable property under federal law.[160] The requirement that a trade secret "derives independent economic value . . . from not being generally known" implies that the right to exclude is the basis of the trade secret property interest.[161] This understanding has been affirmed by federal courts ruling on cases of trade secret misappropriation.[162]

The Restatement (Third) of Unfair Competition defines a trade secret as "any information that can be used in the operation of a business or other enterprise and [] is sufficiently valuable and secret to afford an actual or potential economic advantage over others."[163] Notably, this definition (and the DTSA and UTSA definitions) is much broader than the definition contained in the First Restatement of Torts, which was applied in *Monsanto*.[164] The First Restatement of Torts states that a trade secret "is not simply information as to single or ephemeral events in the conduct of the business, as, for example . . . security investments made or contemplated."[165] Although the First Restatement explicitly excludes security investments from the definition of trade secret, investment strategies could arguably constitute trade

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159 18 U.S.C. § 1839(3).

160 18 U.S.C. § 1836(b)(1).

161 18 U.S.C. § 1839(3)(B).

162 *See, e.g.*, Oakwood Lab'ys LLC v. Thanoo, 999 F.3d 892, 913 (3d Cir. 2021) (holding that "[b]y statutory definition, trade secret misappropriation *is* harm," because "[t]he trade secret's economic value depreciates or is eliminated altogether upon its loss of secrecy").

163 RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 (AM. L. INST. 1995).

164 Ruckelshaus v. Monsanto, 467 U.S. 986, 1001–02 (1984).

165 RESTATEMENT (FIRST) OF TORTS § 757, cmt. b (AM. L. INST. 1939).

secrets because they have "continuous use" [166], unlike a particular investment position.[167] The lack of a duration requirement in the newer definitions, however, greatly strengthens the argument that investment strategies constitute trade secrets.

FOIA Exemption 4, which covers confidentiality requests for 13F disclosures, applies to "trade secrets and commercial or financial information."[168] Caselaw on the definition of trade secrets under FOIA is fairly sparse. In 1983, the D.C. Circuit rejected the First Restatement's definition of trade secret as being too broad for FOIA Exemption 4.[169] Instead, the Court defined "trade secret, *solely* for the purpose of FOIA Exemption 4, as a secret, commercially valuable plan, formula, process, or device that is used for the making, preparing, compounding, or processing of trade commodities and that can be said to be the end product of either innovation or substantial effort."[170] This definition is much narrower than the one employed by the DTSA, the Third Restatement of Unfair Competition, or even the First Restatement of Torts.

Given the various federal and state law definition of trade secrets, it is unclear what definition a court would use when considering takings of financial information. While the D.C. Circuit definition appears to still be applicable to FOIA Exemption 4, trade secret law has undergone major changes since that case was decided. Although FOIA and DTSA are different statutes and concern different legal areas, Congress's decision to explicitly define trade secret— as opposed to relying on common law—is significant. Congress has signaled that trade secrets should be granted more federal protections.[171]

Additionally, the definition of trade secret for purposes of the Takings Clause may be different than the definition used for FOIA. While FOIA applies to disclosures made to government agencies, trade secret disclosures to the public implicate the Fifth Amendment. Disclosures to agencies that are legally required to keep trade secret information confidential do not constitute

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166 *Id.*

167 *Id.*

168 5 U.S.C. § 552(b)(4).

169 Pub. Citizen Health Rsch. Grp. v. FDA, 704 F.2d 1280, 1288 (D.C. Cir. 1983).

170 *Id.* (emphasis added).

171 H.R. DOC. NO. 114–529, at 6 (2016) ("The Defend Trade Secrets Act of 2016 . . . offers a needed update to Federal law to provide a Federal civil remedy for trade secret misappropriation . . . [it] will provide a single, national standard for trade secret misappropriation with clear rules and predictability for everyone involved.").

takings.[172] Thus, the FOIA definition of trade secret may apply to cases involving confidential disclosures of trade secrets, but a different definition could apply to the analysis of trade secrets as constitutionally protected property interests. Under the Takings Clause, "[property] interests . . . are not created by the Constitution," but instead "are created and . . . defined by existing rules or understandings that stem from an independent source such as state law."[173] Compared to *Monsanto*, the DTSA, UTSA,[174] and Restatement (Third) of Unfair Competition all employ an expanded definition. Additionally, *Monsanto* itself seems to reject a narrow definition of trade secret since it held that testing data—not just the pesticide formula—was constitutionally protected.[175]

B. Hedge Fund Trading Strategies as Trade Secrets

Hedge fund trading strategies should be considered trade secrets. All definitions require that a trade secret be "secret," or, in other words, the owner must take "reasonable measures to keep such information secret."[176] This requirement was the basis for the ruling in *Monsanto*.[177] Hedge fund managers subject to 13F disclosure requirements meet this requirement: hedge fund managers seek confidentiality treatment for "proprietary information that allows competitors to free-ride on [their] efforts to identify profitable investments and trading strategies."[178] They also "go to great lengths to protect the secrecy of their investment strategies."[179] Hedge funds that "use sophisticated mathematical

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[172] *See* Full Value Advisors, LLC v. SEC, 633 F.3d 1101, 1110 (D.C. Cir. 2011) ("[T]he value of a trade secret is not destroyed if it is disclosed to a party that is under obligation to protect it.").

[173] Ruckelshaus v. Monsanto, 467 U.S. 986, 1001 (1984) (alterations in original) (quoting Webb's Fabulous Pharmacies, Inc. v. Beckwith, 449 U.S. 155, 161 (1980)).

[174] *See, e.g.*, FLA. STAT. § 688.002 ("(4)"Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique, or process that: (a) Derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (b) Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.").

[175] *Monsanto*, 467 U.S. at 998.

[176] 18 U.S.C. § 1839(3)(A); *see also* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. F (AM. L. INST. 1995) ("To qualify as a trade secret, the information must be secret."); RESTATEMENT (FIRST) OF TORTS § 757 cmt. b (AM L. INST. 1939) ("The subject matter of a trade secret must be secret.").

[177] *Monsanto*, 467 U.S. at 1002 ("Because of the intangible nature of a trade secret, the extent of the property right therein is defined by the extent to which the owner of the secret protects his interest from disclosure to others.").

[178] George O. Aragon et al., *Why Do Hedge Funds Avoid Disclosure? Evidence from Confidential 13F Filings*, 48 J. FIN. & QUANTITATIVE ANALYSIS 1499, 1499 (2013).

[179] Bonser, *supra* note 48, at 381.

trading models . . . guard their quant secrets vigorously."[180] Hedge funds also defend their trading strategies through litigation, such as when Two Sigma sued multiple former employees for misappropriating its trading models.[181] In addition to being secret, trade secrets must also have independent value.[182] Like the pesticides at issue in *Monsanto*, the trading strategies employed by hedge funds require "enormous amounts of capital to develop."[183] Furthermore, knowledge of a hedge fund's holdings is extremely valuable to competitors who can "trade against a fund that is in the process of accumulating or disposing of a position."[184]

At least one article has argued that hedge fund strategies do not constitute trade secrets. In analyzing hedge fund manager Phillip Goldstein's claim that 13(f) disclosures constitute a regulatory taking, this article argued that hedge fund portfolios lack "a substantial element of secrecy" because managers often communicate their holdings to investors and the public.[185] Hedge fund managers do often tell the public about a certain position that their firm has taken.[186] Activist short sellers often do too. For example, in order to carry out a short and distort attack, a short seller must reveal its short position to the public in order to raise doubts about the target's financial health.[187] But revealing a certain position once it is secure is very different from requiring firms to reveal all of their holdings while they are still in the process of executing a strategy. Additionally, the voluntary disclosure of a single position does not carry any risk of reverse-engineering the trading strategy, unlike mandatory disclosure of the whole portfolio.

For similar reasons, the current 13(f) requirement to disclose only equity holdings does not constitute a disclosure of trade secrets. 15 U.S.C. 78m(d), which requires disclosure when a person acquires more than 5% of a publicly traded company, also does

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180 Nathan Vardi, *Two Sigma Hedge Fund Has Twice Accused Chinese Nationals of Stealing Quant Secrets*, FORBES (Feb. 21, 2014, 9:30 AM EST), https://perma.cc/MN5P-JRCJ.

181 *Id.*

182 *See, e.g.*, RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. e (AM. L. INST. 1995) ("A trade secret must be of sufficient value in the operation of a business or other enterprise to provide an actual or potential economic advantage over others who do not possess the information.").

183 Bonser, *supra* note 48, at 381.

184 Aragon et al., *supra* note 177, at 1499–1500.

185 *See* Pekarek, *supra* note 44, at 1155–57.

186 *See, e.g.*, Yun Li & Lora Kolodny, *Michael Burry of 'The Big Short' Reveals a $530 Million Bet Against Tesla*, CNBC (May 18, 2021), https://perma.cc/7YM4-N3T4.

187 Coffee & Mitts, *supra* note 59.

not entail the risk of reverse-engineering. Requiring monthly reporting of all equity, derivative, and short positions, however, does likely constitute a disclosure of trade secrets. Such robust reporting requirements create a strong possibility that others can reverse engineer a hedge fund's strategy since they effectively require a firm to disclose its entire portfolio. Reverse engineering was the primary concern in *Philip Morris*, which held that "public disclosure of the appellees' ingredient lists, even in part, will make it much easier to reverse engineer" their formulas.[188] When compliance with a disclosure regime entails a high risk of competitors reverse engineering one's strategy, that law should constitute a taking.

V. APPLICATION OF THE LUCAS RULE TO FINANCIAL DISCLOSURES

A. Introduction to *Lucas*

Lucas held that "total deprivation of beneficial use" constitutes a per se regulatory taking. In *Lucas*, the plaintiff purchased oceanfront residential lots in South Carolina with the intent to develop them into single-family homes.[189] Two years after purchasing the beachfront property, South Carolina enacted a law prohibiting construction of "any permanent habitable structures on [plaintiff's] two parcels."[190] The majority in *Lucas* relied on a trial court finding that the South Carolina law, which contained no exceptions, "rendered Lucas's parcels 'valueless.'"[191] The Court held that there are two situations where a government action is a per se taking: physical invasion of property and denial of "all economically beneficial or productive use."[192] In these situations, the action is "compensable without case-specific inquiry into the public interest advanced in support of the restraint."[193] In other words, courts should ignore the *Penn Central* factors and rule for the property owner in such situations.

In *Lucas*, the Supreme Court established the total regulatory taking rule by analogizing to prior precedent. A per se rule for physical invasions of property had already been established by the Supreme Court in *Loretto v. Teleprompter Manhattan CATV*

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188 Philip Morris, Inc. v. Reilly, 312 F.3d 24, 41 (1st Cir. 2002).
189 *Id.* at 1007.
190 *Id.*
191 *Id.*
192 *Id.* at 1015.
193 *Id.*

Corp.[194] In *Lucas,* the Supreme Court reasoned that "total deprivation of beneficial use is, from the landowner's point of view, the equivalent of a physical appropriation."[195] The *Penn Central* test assumes "that the legislature is simply adjusting the benefits and burdens of economic life in a manner that secures an average reciprocity of advantage to everyone concerned."[196] This assumption does not hold "in the extraordinary circumstance when no productive or economically beneficial use of land is permitted."[197] Although *Mahon* cautioned that overzealous application of the Takings Clause would effectively disable government, the Court in *Lucas* reasoned that a per se rule for total deprivation of value would not impair government effectiveness since it is applicable only in rare situations.[198]

The fundamental principle behind the *Lucas* rule is that "when the owner of real property has been called upon to sacrifice *all* economically beneficial uses in the name of the common good . . . he has suffered a taking."[199] The government may use eminent domain to acquire private property for public use, but formal condemnation requires compensating the property owner. Governments are likely to attempt to skirt around this compensation requirement by using regulations instead of eminent domain.[200] The Court found that the South Carolina law was effectively equivalent to "the use of eminent domain to impose servitudes . . ." or acquire the property.[201]

The Court in *Lucas* distinguished between regulations affecting personal property and real property. Generally, "the property owner necessarily expects the uses of his property to be restricted,

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194 458 U.S. 419 (1982).

195 *Lucas*, 505 U.S. at 1017.

196 *Id.*

197 *Id.*

198 *See id.* at 1018 ("[T]he *functional* basis for permitting the government, by regulation, to affect property values without compensation . . . does not apply to the relatively rare situations where the government has deprived a landowner of all economically beneficial uses.").

199 *Id.* at 1019.

200 *Id.* at 1018 ("regulations that leave the owner of land without economically beneficial or productive options for its use . . . carry with them a heightened risk that private property is being pressed into some form of public service under the guise of mitigating serious public harm."); *see also, e.g.*, Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) ("The rights of the public in a street purchased . . . by eminent domain are those that is has paid for. If . . . its representatives have been so short sighted as to acquire only surface rights without the right of support, we see no more authority for supplying the latter without compensation than there was for taking the right of way in the first place and refusing to pay for it.").

201 *See Lucas*, 505 U.S. at 1018–19.

from time to time, by . . . legitimate exercise" of the government's police powers.[202] This is especially true "in the case of personal property, by reason of the State's traditionally high degree of control over commercial dealings," and an owner "ought to be aware of the possibility that new regulation might even render his property economically worthless."[203] For real property, however, the Court found the notion that government could "eliminate all economically valuable use" of land to be "inconsistent with the historical compact recorded in the Takings Clause that has become part of our constitutional culture."[204]

B. Comparing the Application of *Penn Central* and *Lucas* to Trade Secrets and Disclosures of Financial Information

The three-factor *Penn Central* balancing test applies "when the *Lucas* test is inapplicable—that is, when the government interference falls short of completely eliminating use and/or value."[205] The plaintiffs in *Penn Central* attempted to construct an office building above Grand Central Terminal in New York City but were thwarted when the City government designated the building a landmark.[206] Under New York City's Landmark Preservation Law, the City had the power to prevent architectural alterations to any landmark when the alteration was against the public interest.[207]

The *Penn Central* test—and regulatory takings jurisprudence generally—encapsulates the idea that it is impossible to properly operate a government without harming someone's property interest.[208] Courts must therefore balance the harm to the private interest of the property owner against the benefit to the public interest.[209] In essence, the three *Penn Central* factors concern the

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[202] *Id.* at 1027.

[203] *Id.* at 1027–28.

[204] *Id.*

[205] Robert Meltz, *Takings Law Today: A Primer for the Perplexed*, 34 ECOLOGY L.Q. 307, 329 (2007).

[206] Penn Central Transp. Co. v. New York City, 438 U.S. 104, 110–19 (1978).

[207] *Id.* at 108–13.

[208] *Id.* (quoting *Mahon,* 260 U.S. at 413) ("Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law.").

[209] *See also* Murr v. Wisconsin, 137 S. Ct. 1933, 1943 (2017) (alteration in original) ("A central dynamic of the Court's regulatory takings jurisprudence, then, is its flexibility. This has been and remains a means to reconcile two competing objectives central to regulatory takings doctrine. One is the individual's right to retain the interests and exercise the freedoms at the core of private property ownership. . . . The other persisting interest is the government's well-established power to 'adjus[t] rights for the public good.'").

magnitude of harm to the property owner's interest: the harm is stronger when it is economically large, interferes with current uses of property, or is physical in nature. Thus, "a use restriction on real property may constitute a 'taking' if not reasonably necessary to the effectuation of a substantial public purpose . . . or perhaps if it has an unduly harsh impact upon the owner's use of the property."[210] Normal government functions, such as taxation, often benefit one party while adversely affecting another.[211] The government may "properly make a choice between the preservation of one class of property and that of the other."[212] Actions to promote "'the health, safety, morals, or general welfare' . . . by prohibiting particular contemplated uses of land" are not necessarily takings even when they have "destroyed or adversely affected recognized real property interests."[213]

Under *Penn Central*, the strength of the takings claim depends on the property owner's reasonable expectations for the property. In *Penn Central*, the plaintiffs had a reasonable expectation in continuing to operate Grand Central Terminal as a train terminal but did not have a reasonable expectation to construct a large office building on top of the terminal.[214] The landmark designation did not interfere with the plaintiff's "primary expectation concerning the use of the parcel."[215] Government actions that result in economic harm but do not "interfere with reasonable expectations of the claimant" are not a taking.[216] The strength of the property owner's claim also depends on the character of the taking, i.e. whether the government action is a physical invasion of property or a regulation on the use of property. [217] While physical invasions always harm the owner's interest, regulations on the use of property can sometimes result in *increased* property value.[218] In other cases, a regulation may decrease the value of property while simultaneously benefiting the property owner in

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210 *Penn Central*, 438 U.S. at 127.

211 *Id.* at 124.

212 *Id.* at 126 (quoting Miller v. Schoene, 276 U.S. 272, 279 (1928)).

213 *Id.* at 125.

214 *Id.* at 136 ("[T]he New York City law does not interfere in any way with the present uses of the Terminal. Its designation as a landmark not only permits but contemplates that appellants may continue to use the property precisely as it has been used for the past 65 years.").

215 *Id.*

216 *Id.* at 124–25.

217 *Id.* at 124.

218 *See Murr*, 137 S. Ct. at 1946 (2017) (positing that a limitation on the use of a small lot may increase the value of a landowner's adjacent lot by, for example, "protect[ing] the unobstructed skyline views.").

some other way.[219] Lastly, "a taking may more readily be found when the interference with property can be characterized as a physical invasion . . . than . . . some public program adjusting the benefits and burdens of economic life to promote the common good."[220]

Plaintiffs rarely prevail under the *Penn Central* test.[221] While both the *Lucas* test and *Penn Central* test are factually intensive, the *Penn Central* test examines the harm to the property owner based on three factors, while *Lucas* focuses on only one. Under *Lucas*, the only relevant factor is the economic impact on the property owner.[222] Thus, the *Lucas* test could be characterized as a form of *Penn Central* applicable when the economic harm to the property owner is so large that it is dispositive.[223] Under *Lucas*, investment-backed expectations and the character of the harm are irrelevant. For example, the owner in *Lucas* prevailed despite the fact that the South Carolina law at issue did not interfere with the plaintiff's existing use of his undeveloped property. Because investment-backed expectations are irrelevant under *Lucas*, it is much easier for plaintiffs to win when the categorical rule applies. For plaintiffs, the key hurdle under *Lucas* is showing a total elimination of value and/or all economic uses. Had the trial court in Lucas not determined that the plaintiff's property was "valueless,"[224] it is possible that the Supreme Court would have ruled differently. Although undeveloped land can still be used for recreational activities, the Court stressed the importance of economic uses of land. The Supreme Court has noted that the categorical rule in *Lucas* "would not apply if the diminution in value were 95% instead of 100%" and "anything less than a complete

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219 *Penn Central*, 438 U.S. at 127 ("While zoning at times reduces *individual* property values, the burden is shared relatively evenly and it is reasonable to conclude that on the whole an individual who is harmed by one aspect of the zoning will be benefited by another.")

220 *Id.* at 124.

221 *See* Meltz, *supra* note 205, at 333 ("The *Penn Central* test has rarely been invoked successfully in the Supreme Court, except where a special feature of the challenged regulation, such as physical invasion, total taking, or interference with a fundamental property interest, triggered categorical analysis.").

222 *See Lucas*, 505 U.S. at 1015 (finding that categorical treatment is appropriate "where regulation denies all economically beneficial or productive use of land.").

223 *Id.* at 330; *see also* Philip Morris, Inc. v. Reilly, 312 F.3d 24, 35 (1st Cir. 2002) (characterizing the *Lucas* and *Loretto* per se rules as "shortcuts" within the *Penn Central* framework).

224 Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1020 (1992).

elimination of value or a total loss . . . would require the kind of analysis in Penn Central."[225]

When evaluating the economic impact factor, under both *Lucas* and *Penn Central*, courts must also evaluate any economic benefit the property owner receives from the regulation.[226] The New York City law in *Penn Central* "gave the owners of landmark sites additional opportunities to transfer development rights to other parcels."[227] Although designation as a landmark restricts the ability to build on the property, owners are able to sell the air rights above their property more easily, making the air rights of landmarks more valuable than the air rights of other buildings.[228] The benefit to the owners in *Penn Central* was direct—the law that decreased the value of their property (the terminal) also increased the value of their property (the air rights). This was not the case in *Lucas*; the South Carolina law did not grant affected property owners any benefits. The law, which aimed at "protecting the public from shoreline erosion," only indirectly benefited affected property owners by mitigating erosion of their property, and most of this benefit went to owners who already had existing structures that were threatened by erosion.[229]

Under *Lucas*, a government action that totally eliminates a property's economic value is not a taking if it is within the government's police power to "abate nuisances that affect the public generally."[230] A "regulation that deprives land of all economically beneficial use" is not a taking if "the proscribed use interests were not part of [the property owner's] title to begin with."[231] While the focus of the *Penn Central* test is on the plaintiff to show the level harm to the property interest, the *Lucas* rule places the burden on the government to "identify background principles of nuisance and property law that prohibit" the affected property owner's use of the property.[232] When applying *Lucas*, courts should consider "the degree of harm to public lands and resources, or adjacent

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225 Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 330 (2002) (internal quotation marks omitted) (citing *Lucas*, 505 U.S. 1003, at 1019–20).

226 *See* Murr v. Wisconsin, 137 S. Ct. 1933, 1946 (2017) ("[C]ourts should assess the value of the property under the challenged regulation, with special attention to the effect of burdened land on the value of other holdings. Though a use restriction may decrease the market value of the property, the effect may be tempered if the regulated land adds value to the remaining property.")

227 Penn Central Transp. Co. v. New York City, 438 U.S. 104, 114 (1978).

228 *Id.*

229 *Lucas*, 505 U.S. at 1037–40 (Blackmun, J., dissenting).

230 *Id.* at 1029.

231 *Id.* at 1027.

232 *Id.* at 1031.

private property, posed by the claimant's proposed activities . . . the social value of the claimant's activities . . . and the relative ease with which the alleged harm can be avoided through measures taken by the claimant and the government (or adjacent private landowners)."[233] If the owner's use of the property violated "relevant property and nuisance principles," the prohibition of that use is not a taking since the use "was always unlawful."[234]

When evaluating a takings claim—under both *Penn Central* and *Lucas*—courts must look at the property as a whole. Although property is a bundle of rights, "the destruction of one 'strand' of the bundle is not a taking."[235] Courts will evaluate "the interference with the rights in the parcel as a whole" and not "divide a single parcel into discrete segments . . . to determine whether rights in a particular segment have been entirely abrogated."[236] In *Penn Central*, for example, the Court analyzed the entire parcel, not just the right to erect a structure on the property.[237] In *Tahoe-Sierra*, the Supreme Court did not apply *Lucas* to a 32-month moratorium on "virtually all development" around Lake Tahoe because doing so would "effectively sever a 32-month segment from the remainder of each landowner's fee simple estate, and then ask whether that segment has been taken in its entirety."[238] The Court clarified that the *Lucas* test only applies to "the permanent 'obliteration of the value' of a fee simple estate."[239]

C. Public Disclosure of Trade Secrets Should Constitute a Per Se Taking

The reasoning of *Lucas*—that requiring a property owner to "sacrifice *all* economically beneficial uses in the name of the common good" is a taking[240]—is applicable to public disclosures of trade secrets. Mandating public disclosure compels the owner of financial information to give up a property right for the public's benefit; the public benefits from an improved market (e.g. improved efficiency, reduced volatility, etc.) while the discloser

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233 *Id.* at 1030–31 (citation omitted).

234 *Id.* at 1029–1030.

235 Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 326–27 (2002) (quoting Andrus v. Allard, 444 U.S. 51, 65–66 (1979)).

236 Penn Central Transp. Co. v. New York City, 438 U.S. 104, 130–31 (1978)

237 *Id.* at 130 ("[T]hat appellants may establish a 'taking' simply by showing that they have been denied the ability to exploit a property interest that they heretofore had believed was available for development is quite simply untenable.").

238 *Tahoe-Sierra*, 535 U.S. at 331.

239 *Id.* at 330.

240 Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1019 (1992).

forfeits their competitive advantage. Compulsory public disclosure of a trade secret is essentially a total elimination of value. As discussed above, public disclosure eliminates the property right in the trade secret.[241] This understanding was affirmed by the Supreme Court in *Monsanto* when it explained that "if an individual . . . publicly discloses the [trade] secret, his property right is extinguished."[242] When trade secret data "are disclosed to others, or others are allowed to use those data, the holder of the trade secret has lost his property interest in the data."[243]

The concept of a trade secret being a property interest is based on the right to exclude.[244] The Supreme Court endorsed this understanding of trade secrets when, in *Monsanto*, it held that "with respect to a trade secret, the right to exclude others is central to the very definition of the property interest."[245] The Supreme Court recently reemphasized the importance of the right to exclude in *Cedar Point Nursery v. Hassid*,[246] when it held that the right to exclude is "a fundamental element of the property right" and "one of the most essential sticks in the bundle of rights that are commonly characterized as property."[247] Judge Easterbrook explained that "patents give a right to exclude, just as the law of trespass does with real property" and "the right to exclude is no different in principle" for intangible and tangible property.[248] Judge Easterbrook also stressed that "intellectual property is no less the fruit of one's labor than is physical property" and that both physical and intellectual property require the government to enforce property rights against predators.[249]

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241 Ruckelshaus v. Monsanto, 467 U.S. 986, 1002 (1984) ("Information that is public knowledge or that is generally known in an industry cannot be a trade secret") (citing RESTATEMENT (FIRST) OF TORTS § 757 (AM. L. INST. 1939)); *see also* RESTATEMENT (FIRST) OF TORTS § 757 cmt. b (AM. L. INST. 1939) ("Matters of public knowledge . . . cannot be appropriated by one as his secret.").

242 *Monsanto*, 467 U.S. at 1002.

243 *Id.* at 1011.

244 *See* Pekarek, *supra* note 44, at 1146 (citing 1–2 ROGER M. MILGRIM, MILGRIM ON TRADE SECRETS § 2.01 (2006)) ("[T]he concept of a trade secret embraces, at a minimum, the holder's right to exclude others and to dictate the manner in which the trade secret is used.").

245 *Monsanto*, 467 U.S. at 1011.

246 141 S. Ct. 2063 (2021).

247 *Cedar Point Nursery*, 141 S. Ct. at 2072 (quoting Kaiser Aetna v. United States, 444 U.S. 164, 176, 179–180 (1979)).

248 Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108, 109 (1990).

249 *Id.* at 113.

The First Circuit's holding in *Philip Morris*—that *Lucas* is not applicable to personal property[250]—was improper. In *Horne v. Department of Agriculture*, the Supreme Court rejected, in the context of physical takings, any distinction between personal property and real property, and clarified that nothing in its jurisprudence "suggests that personal property was any less protected against physical appropriation than real property."[251] The Court applied the *Loretto* per se rule for physical invasion of property to personal property.[252] Interestingly, the Court's physical takings analysis referenced a 19th century case concerning government appropriation of patents.[253] The Court seemed to imply that the physical takings framework applies to patents, and possibly other types of intellectual property.[254] Professors Gregory Dolin and Irina D. Manta assert that *Horne's* "entire line of reasoning would presumably apply in the patent context as well."[255] Additionally, if there is no distinction between personal and real property in the physical takings context, then there should be no distinction between personal and real property in the regulatory takings context. Thus, *Lucas* (which originally applied to regulatory takings of real property) should apply to regulatory takings of personal property in the same way that *Loretto* is applicable to personal property under *Horne*.

In *Horne*, the Supreme Court rejected the notion that a government action is not a taking if the owner maintains a residual interest in the property.[256] *Horne* concerned a federal law that required growers of raisins "to give a certain percentage of their crop to the Government, free of charge."[257] The raisins would be sold by the government, but the growers "retain[ed] an interest in any net proceeds."[258] The government argued that appropriation of the plaintiff's raisins did not constitute a taking because the

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250 Philip Morris, Inc. v. Reilly, 312 F.3d 24, 33–35 (1st Cir. 2002).

251 Horne v. Dep't of Agric., 576 U.S. 351, 359 (2015).

252 *Id.* at 361–62.

253 *See id.* at 359; *see also* James v. Campbell, 104 U.S. 356, 358 (1881).

254 *See* Gregory Dolin & Irina D. Manta, *Taking Patents*, 73 WASH. & LEE L. REV. 719, 770–91 (2016) (arguing, based on *Horne* and other precedent, that appropriation of patents should be evaluated under the physical taking framework rather than the regulatory taking framework).

255 *Id.* at 771.

256 *Horne*, 576 U.S. at 362–63 ("The second question presented asks 'Whether the government may avoid the categorical duty to pay just compensation for a physical taking of property by reserving to the property owner a contingent interest in a portion of the value of the property, set at the government's discretion.' The answer is no.").

257 *Id.* at 354.

258 *Id.* at 355.

profit from the sale of these raisins would be returned to the owners.[259] The Court held that retention of "a contingent interest of indeterminate value does not mean there has been no physical taking, particularly since the value of the interest depends on the discretion of the taker, and may be worthless."[260]

This reasoning in *Horne* is similar to *Monsanto*, where the fact that the trade secret data could continue to be used after public disclosure was irrelevant. Appropriation (and subsequent disclosure) of a trade secret does not prevent the owner of the trade secret from continuing to use it. Arguably, the property owner will always retain an interest in the trade secret even if it is no longer secret. In addition to failing under *Monsanto* (which emphasized that the value of trade secrets was rooted in the right to exclude),[261] this argument also fails under *Horne*. The SEC has discretion on what information to publicly disclose, and the information subject to disclosure has no value after disclosure (or, at least, has indeterminate value). Further, Professor Richard Epstein argues that, although a "residual right [to continue using a trade secret] is not wholly worthless," public disclosure should still constitute a taking because "the most common form of [trade secret] theft never eliminates the right of the owner to use his own trade secret."[262]

In *Horne*, the Supreme Court also rejected the "notion that general regulatory activity such as enforcement of quality standards can constitute just compensation for a specific physical taking."[263] The government argued that the raisin reserve program benefited the plaintiffs by increasing raisin prices through "higher consumer demand . . . spurred by the enforcement of quality standards and promotional activities."[264] The Court rejected the government's argument that these indirect benefits offset the harm against the plaintiff. This reasoning is in line with *Lucas*, where the plaintiff only indirectly benefited from reduced coastline erosion.

Under an enhanced public disclosure regime, hedge funds would benefit by having access to more market information and

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[259] *Id.* at 363 ("The Government contends that because growers are entitled to these net proceeds, they retain the most important property interest in the reserve raisins, so there is no taking in the first place.").

[260] *Id.* at 363.

[261] Ruckelshaus v. Monsanto, 467 U.S. 986, 1011 (1984) ("With respect to a trade secret, the right to exclude others is central to the very definition of the property interest.").

[262] Epstein, *supra* note 136, at 62–63.

[263] *Horne*, 576 U.S. at 368.

[264] *Id.*

being aware of their competitors' holdings. While the increase of general market information is useful for hedge funds, this benefit is indirect. All market participants benefit from increased access to market data in the same way that all oceanfront property owners benefit from reduced coastline erosion. Whether the value of knowing competitors' holdings should offset the harm of a taking is a more complex question. The SEC could argue that public disclosure directly benefits hedge funds by giving them valuable information about their competitors. Given the precedent in *Horne*, however, this argument is not persuasive since a financial disclosure regime is analogous to the raisin control regime at issue in that case. Both regimes require market participants to sacrifice their property rights in order to better the overall market. Affected property owners benefit when the market is better, but the Supreme Court held that such an indirect benefit from "general regulatory activity" does not remove the government's burden to compensate harmed property owners.[265]

While *Horne* made the distinction between personal and real property irrelevant, the Supreme Court continues to affirm the distinction between physical and regulatory takings.[266] However, scholars have criticized this distinction as arbitrary. Judge Easterbrook wrote that "except in the rarest case, we should treat intellectual and physical property identically in the law."[267] Similarly, Professor Richard Epstein argues that takings of intellectual property should be evaluated under the physical takings framework.[268] He posits that "forced assignment of a trade secret" is analogous to a permanent physical occupation.[269] Under *Loretto*, "permanent physical occupation authorized by government" is a per se taking.[270] Professor Epstein advocates for the application of this per se physical takings rule to intellectual property.

While Professor Epstein's argument is compelling, importing the per se rule from *Loretto* to all intellectual property takings claims may be too extreme. The Supreme Court continues to emphasize that the analysis of physical takings, which is rooted in English common law, is fundamentally different from the

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265 *Id.*

266 *See* Cedar Point Nursery v. Hassid, 141 S. Ct. 2063, 2072 (2021) (explaining the difference between regulatory takings, "use restrictions that go 'too far,'" and physical takings "garbed as a regulation").

267 Easterbrook, *supra* note 241, at 118.

268 Epstein, *supra* note 136, at 61–63.

269 *Id.* at 61.

270 Loretto v. Teleprompter Manhattan CATV Corp., 458 US 419, 426 (1982).

analysis of regulatory takings, which is rooted in *Mahon*.[271] In *Horne*, the Court did not apply *Lucas* to the taking of raisins because that case "was about regulatory takings, not direct appropriations," and noted that its jurisprudence "stressed the 'longstanding distinction' between government acquisitions of property and regulations."[272] The Court held that "when there has been a physical appropriation, 'we do not ask . . . whether it deprives the owner of all economically valuable use' of the item taken."[273] The difference in treatment is based on the Court's view that physical appropriation is more harmful to the property owner's interest than regulation. Physical "appropriation is perhaps the most serious form of invasion of an owner's property interests, depriving the owner of the rights to possess, use and dispose of the property."[274] While regulation only affects the proscribed use of property, the plaintiffs in *Horne* "lose the entire 'bundle' of property rights in the appropriated raisins."[275] The Court noted that, although "a physical taking of raisins and a regulatory limit on production may have the same economic impact on a grower," the Fifth Amendment focuses on the means used to achieve the government's goal, not just the impact on property owners.[276]

Plaintiffs challenging a financial disclosure regime may argue that the government action is an appropriation similar to the appropriation of raisins in *Horne*. Given the Supreme Court's insistence on separating regulatory and physical takings and its emphatic defense of physical property rights,[277] this argument is unlikely to be persuasive. Courts are likely to apply the regulatory takings framework to financial disclosures because of the precedent set by *Monsanto*. While the *Loretto* per se rule for physical invasion of property does not apply to regulatory takings, the *Lucas* rule does. Although it is "inappropriate to treat cases involving physical takings as controlling precedents for the

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[271] Horne v. Dep't of Agric., 576 U.S. 351, 357–60 (2015) (internal citation omitted) ("Prior to this Court's decision in *Pennsylvania Coal Co.* v. *Mahon*, the Takings Clause was understood to provide protection only against a direct appropriation of property—personal or real.").

[272] *Id.* at 361 (quoting Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 323 (2002)).

[273] *Id.* at 363 (quoting *Tahoe-Sierra*, 535 U.S. at 323).

[274] *Id.* at 360.

[275] *Id.* at 361.

[276] *Id.* at 362.

[277] *Id.* at 360 ("[P]hysical *appropriation* of property [gives] rise to a *per se* taking, without regard to other factors").

evaluation of a . . . regulatory taking," *Lucas* is applicable to regulatory takings claims.[278]

D. Answering Objections to applying *Lucas* to Trade Secrets and Financial Disclosures

Some may argue that extending *Lucas* to personal property or trade secrets will make effective regulation impossible. Although this proposal may make public disclosure regimes less feasible, it will not affect non-public disclosures to government agencies. In *Full Value Advisors*, the court ruled that non-public disclosure of trade secrets to the SEC was not a taking since the secret "remains confidential, and the value of a trade secret is not destroyed if it is disclosed to a party that is under obligation to protect it."[279] As discussed above, public disclosure of trade secrets is a taking because it eliminates the only stick in the property owner's bundle of rights: the right to exclude. Confidential disclosures to government agencies do not eliminate this right.

Additionally, situations where a property owner has been deprived of all value or economically beneficial uses are "relatively rare."[280] Justice Thomas even characterized the applicability of *Lucas* as "exceedingly rare."[281] An article analyzing 1,700 state and federal cases found "only 27 cases in 25 years in which courts found a categorical taking under Lucas."[282] Furthermore, there are two defenses against the *Lucas* rule: (1) nuisance, "when the government regulates to prevent uses that otherwise would have been prohibited under the traditional law of nuisance," and (2) the background principles defense, where the proscribed use of property "is contrary to traditional, long-established limitations on private property rights.[283] For example, in *McCutchen v. United States*,[284] the Federal Circuit ruled that a ban on bump-stock-type devices was not a taking because these devices were

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[278] *Tahoe-Sierra*, 535 U.S. at 323.

[279] Full Value Advisors, LLC v. SEC, 633 F.3d 1101, 1110 (D.C. Cir. 2011).

[280] Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1018 (1992).

[281] Bridge Aina Le'a, LLC v. Haw. Land Use Comm'n, 141 S. Ct. 731, 731 (2021) (Thomas, J., dissenting from the denial of cert.) (citing Carol Necole Brown & Dwight H. Merriam, *On the Twenty-Fifth Anniversary of* Lucas*: Making or Breaking the Takings Claim*, 102 IOWA L. REV. 1847, 1849–50 (2017)).

[282] Carol Necole Brown & Dwight H. Merriam, *On the Twenty-Fifth Anniversary of* Lucas*: Making or Breaking the Takings Claim*, 102 IOWA L. REV. 1847, 1849 (2017).

[283] *Id.* at 1851–52; *see also* Cedar Point Nursery v. Hassid, 141 S. Ct. 2063, 2079 (2021) (quoting *Lucas*, 505 U.S. at 1028–29)) ("[T]he government does not take a property interest when it merely asserts a 'pre-existing limitation upon the [property] owner's title.'").

[284] 14 F.4th 1355 (Fed. Cir. 2021).

illegal machineguns under preexisting law and, therefore, the owners never had a cognizable property interest in them.[285] These defenses, and the rarity of situations where government action actually results in the total elimination of value, mean that extending *Lucas* to personal property is unlikely to affect current law outside of the most extreme cases.

One major check on the overzealous application of *Lucas* is the requirement that courts evaluate the effect of regulation on the property as a whole (i.e. "the denominator question").[286] The total loss requirement under *Lucas* applies both physically and temporarily: the action must have a permanent effect on the entire property.[287] For example, in *Murr*, the Court rejected the argument that a minimum lot size requirement for development implicated the *Lucas* rule.[288] *Murr* emphasized that takings analysis must look at the total property, not just part of the property.[289] The law at issue effectively prohibited the plaintiff, who owned an empty lot and a lot with a building, from erecting a building on the empty lot.[290] The plaintiff would have to tear down the existing structure in order to erect a new one—whether on the empty lot, the same lot, or both lots.[291] The Court evaluated the regulation on the plaintiff's whole property (i.e. both lots) and refused to analyze the effect of the law solely on the empty lot.[292] Similarly, *Tahoe-Sierra* held that the per se rule in *Lucas* requires permanent, not temporary, loss of value.[293] Thus, *Lucas* is

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[285] *Id.* at 1364–66.

[286] Brown & Merriam, *supra* note 282, at 1853 ("The denominator question asks: What is the relevant private property interest against which the regulatory impact will be measured?").

[287] Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 330–32 (2002) ("[P]ermanent 'obliteration of the value' of a fee simple estate constitutes a categorical taking.").

[288] Murr v. Wisconsin, 137 S. Ct. 1933, 1949 (2017) ("Considering petitioners' property as a whole . . . [petitioners] have not suffered a taking under *Lucas*, as they have not been deprived of all economically beneficial use of their property.).

[289] *Id.* at 1952 ("If owners could define the relevant 'private property' at issue as the specific 'strand' that the challenged regulation affects, they could convert nearly all regulations into *per se* takings. And so we do not allow it.").

[290] *Id.* at 1940–41.

[291] *Id.* at 1941 (explaining that the property owner could "preserve the existing cabin, relocate the cabin, or eliminate the cabin and build a new residence . . . across both lots").

[292] *Id.* at 1948 (explaining that "for purposes of determining whether a regulatory taking has occurred here, petitioners' property should be evaluated as a single parcel").

[293] Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 332 (2002) (stating that "a permanent deprivation of the owner's use of the entire area is a taking of the parcel as a whole," whereas a "temporary restriction that merely causes a diminution in value is not such a taking").

only applicable when the entirety of the property permanently loses 100% of its value.[294]

Property owners arguing for the application of *Lucas* to financial disclosures will need to address Supreme Court precedent allowing much more extensive regulation of personal property than real property. Regulations on personal property can severely undermine economic value without rising to the level of a taking.[295] *Andrus v. Allard* concerned a federal law banning the sale of items containing eagle parts. The Supreme Court held that the "prohibition of the sale of lawfully acquired property . . . does not effect a taking in violation of the Fifth Amendment."[296] The prohibition on sales effectively made the items worthless, but the Court did not consider the action to be a taking. Although *Andrus* was decided prior to *Lucas*, the Court in *Andrus* addressed the reasoning underlying *Lucas*. The Court refused to characterize the government's action as eliminating all economic uses, holding instead that it only "prevent[ed] the most profitable use of" the property.[297] The owners had not lost their entire bundle of rights since they retained "the rights to possess and transport . . . and to donate or devise" their property.[298] The action at issue also did not remove all economic uses of the property since the owners could still "derive economic benefit from the artifacts" by exhibiting them for a fee.[299]

In *Lucas*, the Court distinguished its ruling from *Andrus* by emphasizing that regulation may render personal "property economically worthless (at least if the property's only economically productive use is sale or manufacture for sale)."[300] More recent cases call into question the distinction between real and personal property, but *Andrus* remains good law.[301] In *Tahoe-Sierra*, the Court explained that the distinction between *Lucas* and *Andrus* centers on the evaluation of property "in its entirety."[302] When comparing *Andrus* to *Lucas*, the necessary conclusion is that

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294 Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1019 n.8 (1992) ("[T]he landowner with 95% loss will get nothing, while the landowner with total loss will recover in full.").

295 *See* Andrus v. Allard, 444 U.S. 51, 67–68 (1979).

296 *Id.* at 67–68.

297 *Id.* at 66.

298 *Id.*

299 *Id.*

300 Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1028 (1992) (citing *Andrus*, 444 U.S. at 66–67).

301 *See* Horne v. Dep't of Agric., 576 U.S. 351, 363–64 (2015) (distinguishing its ruling from *Andrus*).

302 Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 327 (2002) (citing *Andrus*, 444 U.S. at 66).

prohibiting development eliminates all economic uses of real property, but prohibiting sales does not eliminate all economic uses of personal property. In other words, *Lucas* applies when a government action eliminates all economic uses of property, but it is much harder for that situation to occur in the context of personal property.

The holding in *Andrus* should not apply to trade secrets. Although trade secrets are a type of personal property, the reasoning behind Andrus does not make sense for all intangible personal property. The Supreme Court's holding in *Andrus*—that "the denial of one traditional property right does not always amount to a taking"—was based on the fact that the owners in *Andrus* possessed "a full 'bundle' of property rights."[303] The Court noted that "where an owner possesses a full 'bundle' of property rights, the destruction of one 'strand' of the bundle is not a taking, because the aggregate must be viewed in its entirety."[304] In the context of tangible personal property, owners possess the full bundle of property rights. In the context of trade secrets, however, owners only possess one strand: the right to exclude.[305] Public disclosure of trade secrets eliminates the only property right that these owners possess and is analogous to eliminating the entire bundle of rights possessed by owners of tangible property.

Another major obstacle that claimants will have to overcome is the requirement that takings be involuntary. In *Monsanto*, the Court held that post-1978 FIFRA was not a taking since the owner "chose to submit the requisite data in order to receive a registration."[306] The Court rejected Monsanto's argument that the "requirement that a submitter give up its property interest in the data constitutes placing an unconstitutional condition on the right to a valuable Government benefit."[307] This argument was equivalent to "challeng[ing] the ability of the Federal Government to regulate the marketing and use of pesticides."[308] The Court characterized regulations as "burdens we all must bear in exchange for the advantage of living and doing business in a civilized community."[309] Government actions are less likely to constitute a taking in areas that have "long been the source of public concern and the subject of government regulation," such as the

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303 *Andrus*, 444 U.S. at 66.
304 *Id.* at 65–66.
305 *See* Ruckelshaus v. Monsanto, 467 U.S. 986, 1011 (1984).
306 *Id.* at 1006.
307 *Id.* at 1007.
308 *Id.*
309 *Id.*

pesticide industry.[310] This holding was reaffirmed in *Cedar Point Nursery* when the Court held that "the government may require property owners to cede a right of access as a condition of receiving certain benefits, without causing a taking."[311] Conditioning "the grant of a benefit such as a permit, license, or registration on allowing access for reasonable health and safety inspections" is not a taking. [312] The Court cited *Monsanto* as precedent for the understanding that "government health and safety inspection regimes will not constitute takings."[313]

Cedar Point Nursery and *Monsanto* are distinguishable from takings of financial information. Public disclosure regimes (and securities regulation generally) do have a somewhat longstanding history, and submitting to disclosure requirements does grant participants the benefit of accessing capital markets. The hedge fund industry, however, has historically had little regulation. Enhanced disclosure requirements are regulations on the historically unregulated hedge fund industry, not regulations on the sale of securities generally. Additionally, *Monsanto* concerned health and safety regulations, where the government presumably has much more power to regulate through its police powers. The strength of the police powers to regulate securities is much more tenuous.

In *Philip Morris*, which did concern health and safety regulations, the First Circuit held that the state "cannot condition the right to sell tobacco on the forfeiture of any constitutional protections the appellees have to their trade secrets."[314] The court held that "the state must offer a valuable government benefit" in return for disclosure of trade secrets.[315] The court did not consider "the right to sell tobacco products" to be a valuable government benefit, unlike in *Monsanto* where "the government granted a license, created a de jure data-licensing scheme, and established a period of exclusive use for new ingredients in exchange for the right to disclose some trade secrets."[316] Hedge funds are already participating in the securities markets with little regulation. Mandating public disclosures would mean conditioning a hedge fund's ability to engage in something it is already doing without granting a substantial benefit.

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310 *Id.*
311 Cedar Point Nursery v. Hassid, 141 S. Ct. 2063, 2089 (2021).
312 *Id.*
313 *Id.*
314 Philip Morris, Inc. v. Reilly, 312 F.3d 24, 47 (1st Cir. 2002).
315 *Id.*
316 *Id.*

Opponents of enhanced financial disclosures must also confront the temporal nature of takings jurisprudence. *Monsanto* distinguished disclosures that occurred when there was an expectation of confidentiality (1972–1978) from disclosures that occurred when there was no expectation of confidentiality (pre-1972 and post-1978).[317] Because hedge funds are currently subject to little regulation, they operate under the expectation that their portfolios will not be subjected to full disclosure. If the government were to implement a portfolio disclosure regime, this expectation would evaporate. Currently existing trading strategies would be protected under *Monsanto*, but strategies developed after the regime takes effect would not be. Although *Lucas* ignores the investment-backed expectations of the owner, applying *Lucas* to financial disclosures might not remedy this situation. The market value of a trade secret likely depends on the regulatory regime in place when the trade secret is developed. Under a regime where trading strategies are expected to be publicly disclosed, these strategies may have little or no value when they are created. While *Lucas* is still theoretically applicable to these strategies, they would be practically worthless at conception.

The fact that a per se rule may not protect future developers of trading strategies strengthens the argument that applying *Lucas* to trade secrets would not upend securities regulation generally. Only current holders of trade secrets would be compensated—not all trade secret holders going forward. This framework would serve as a deterrent against overregulation. When deciding whether to increase disclosure requirements, the government would have to weigh the cost of compensating current trade secret holders against the benefit of increased disclosure. Such a system would make it more likely that required disclosures would be worthwhile.

VI. CONCLUSION

In the aftermath of the GameStop phenomenon in early 2021, there have been calls for enhanced financial disclosures and regulations on hedge funds. Regulations that essentially require hedge funds to disclose their entire portfolios go too far and constitute a total regulatory taking under *Lucas*. Hedge funds invest in developing proprietary trading strategies and keeping them secret. Disclosure requirements that entail a high risk of reverse-engineering these trading strategies are equivalent to

317 *Monsanto*, 467 U.S. at 1005–1014.

government appropriation of a trade secret for public use. Alternative proposals that do not entail a high risk of reverse-engineering, such as disclosures of aggregated data or disclosure of a large position, are therefore not equivalent to the disclosure of trade secrets.

The Supreme Court, in *Monsanto*, held that trade secrets are protected property under the Fifth Amendment, and public disclosure of a trade secret constitutes a taking. *Monsanto* analyzed the taking of trade secrets using the factors articulated in *Penn Central*, but courts should instead analyze the taking of trade secrets using the categorical rule for total elimination of value. Extending *Lucas* to trade secrets would maintain the distinction between physical and regulatory takings. A per se rule would not severely restrict the government's ability to regulate financial markets because its applicability is limited to the most extreme circumstances. Because public disclosure of trade secrets eliminates a property owner's only stick in their bundle of rights—the right to exclude—treating these actions as a total regulatory taking is appropriate.