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## Rule 10b-5 Meets Wagon Mound: A New Perspective on Loss Causation

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# Rule 10b-5 Meets Wagon Mound: A New Perspective on Loss Causation

Meiring de Villiers\*

## ABSTRACT

*To prevail on a claim under Section 10(b) of the Securities Exchange Act of 1934 and Rule 10b-5 of the Securities and Exchange Commission, the plaintiff in a securities fraud action must plead and prove loss causation, defined as a causal connection between a defendant's fraud and the plaintiff's economic loss. The analysis in this Article shows that loss causation does not exist, and the defendant escapes liability, if scientists cannot ex ante predict the corrective disclosure on which the plaintiff's loss causation theory is predicated. This theory may be relevant in cases where a false or misleading statement that distorted a company's stock price is corrected by an event such as an unpredictable drug reaction, an emerging viral infection, or a novel computer security threat.*

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## I. INTRODUCTION

In a classic securities fraud class action,<sup>1</sup> Rule 10b-5 cognizable fraud—such as the concealment of material

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1. See, e.g., Jay W. Eisenhofer et al., *Securities Fraud, Stock Price Valuation, and Loss Causation: Toward a Corporate Finance-Based Theory of Loss Causation*, 59 BUS. LAW. 1419, 1419–20 (2004) (referring to a case where

information in violation of a duty to disclose<sup>2</sup>—distorts the market price of a security, causing an investor to purchase securities at an artificially inflated price.<sup>3</sup> A disclosure event, such as the materialization of a concealed risk,<sup>4</sup> eventually signals the truth to the market and the investor suffers a loss when the share price declines.<sup>5</sup> The defrauded investor may bring a private action for securities fraud under Section 10(b) of

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a stock price declines in response to a corrective disclosure as a “classic securities fraud case”); *see generally* Ann Morales Olazábal, *Loss Causation in Fraud-on-the-Market Cases Post-Dura Pharmaceuticals*, 3 BERKELEY BUS. L.J. 337, 339–42 (2006) (describing the basic approaches to loss causation in securities fraud cases).

2. Rule 10b-5 cognizable fraud includes misstatements and omissions, such as “the active dissemination of materially false or misleading information, the concealment of a known risk, the concealment of material information in violation of a duty to disclose, or a fraudulent scheme in any manner designed to cause or maintain artificial price inflation . . . .” Robert N. Rapp, *Plausible Cause: Exploring the Limits of Loss Causation in Pleading and Proving Market Fraud Claims Under Securities Exchange Act §10(b) and SEC Rule 10b-5*, 41 OHIO N.U. L. REV. 389, 467 (2015); *see also* Donald C. Langevoort & G. Mitu Gulati, *The Muddled Duty to Disclose Under Rule 10b-5*, 57 VAND. L. REV. 1639, 1640 (2004) (first citing *Basic Inc. v. Levinson*, 485 U.S. 224, 237 (1988)); then citing *SEC v. Tex. Gulf Sulphur Co.*, 401 F.2d 833, 857–65 (2d Cir. 1968) (en banc) (“[T]he federal securities laws are, at heart, about disclosure . . . . [A] person who chooses to speak in a manner reasonably calculated to influence investors assumes the duty to speak truthfully.”).

3. *See, e.g., DeMarco v. Robertson Stephens Inc.*, 318 F. Supp. 2d 110, 124 (S.D.N.Y. 2004) (describing the circuit split on whether plaintiffs sufficiently pleaded loss causation by alleging that they purchased at an inflated price that declined following a corrective disclosure); Donald C. Langevoort, *Disasters and Disclosures: Securities Fraud Liability in the Shadow of a Corporate Catastrophe*, 107 GEO. L.J. 967, 970 (2019) (“A fraud-on-the-market lawsuit allows for recovery of damages on behalf of investors who bought or sold publicly traded securities in an efficient marketplace at a price distorted by fraud on the part of the issuer or its management.”).

4. *See, e.g., In re Massey Energy Co. Sec. Litig.*, 883 F. Supp. 2d 597, 625–26 (S.D.W. Va. 2012) (describing how a mine explosion revealed what was previously concealed material risk).

5. *In re Oracle Corp. Sec. Litig.*, 627 F.3d 376, 392 (9th Cir. 2010) (“Loss causation is established if the market learns of a defendant’s fraudulent act or practice, the market reacts to the fraudulent act or practice, and the plaintiff suffers a loss as a result of the market’s reaction.”); *Glaser v. Enzo Biochem, Inc.*, 464 F.3d 474, 479 (4th Cir. 2006) (“It is only after the fraudulent conduct is disclosed to the investing public, followed by a drop in the value of the stock, that the hypothetical investor has suffered a ‘loss’ that is actionable after the Supreme Court’s decision in *Dura*.”); Allen Ferrell & Atanu Saha, *The Loss Causation Requirement for Rule 10b-5 Causes of Action: The Implications of Dura Pharmaceuticals v. Broudo*, 63 BUS. LAW. 163, 172 (2007) (“Some [federal] circuit courts have rightfully emphasized . . . the need for a corrective disclosure as a prerequisite to establishing loss causation.”).

the Securities Exchange Act of 1934<sup>6</sup> and Rule 10b-5 of the Securities and Exchange Commission,<sup>7</sup> the most widely used antifraud provisions in federal securities law.<sup>8</sup>

Section 10(b) broadly prohibits manipulative or deceptive conduct connected with the purchase or sale of a security. Under Section 10(b), it is unlawful to:

[U]se or employ, in connection with the purchase or sale of any security registered on a national securities exchange or any security not so registered . . . any manipulative or deceptive device or contrivance in contravention of such rules and regulations as the [SEC] may prescribe as necessary or appropriate in the public interest or for the protection of investors.<sup>9</sup>

In 1942 the SEC promulgated Rule 10b-5 under authority granted by Section 10(b) of the 1934 Act, 15 U. S. C. § 78j.<sup>10</sup> Rule 10b-5 makes it unlawful:

- (a) To employ any device, scheme, or artifice to defraud,
- (b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
- (c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.<sup>11</sup>

An implied private right of action for securities fraud under Rule 10b-5 was first recognized in *Kardon v. National Gypsum*

6. 15 U.S.C. § 78j(b) (2018).

7. 17 C.F.R. § 240.10b-5 (2020).

8. See, e.g., Samuel W. Buell, *What is Securities Fraud?*, 61 DUKE L.J. 511, 540 (2011) (“[Rule 10b-5] can make a plausible claim to being the most consequential piece of American administrative law.”); Allen Ferrell, *Corporations, Securities and Antitrust, The Supreme Court’s 2005-2008 Securities Trio: Dura Pharmaceuticals, Tellabs and Stoneridge*, 9 ENGAGE 32, 32 (Oct. 2008) (“[T]he most important source of liability exposure firms and firm management face today [is] class action litigation utilizing a Rule 10b-5 cause of action.”); Evan Hill, *The Rule 10b-5 Suit: Loss Causation Pleading Standards in Private Securities Fraud Claims After Dura Pharmaceuticals, Inc. v. Broudo*, 78 FORDHAM L. REV. 2659, 2666 (2010) (“Section 10(b) of the ‘34 Act is the foremost antifraud provision in U.S. securities law and is utilized through its primary mechanism of enforcement, SEC Rule 10b-5.”).

9. 15 U.S.C. § 78j(b).

10. THOMAS LEE HAZEN, *FEDERAL SECURITIES LAW* 113 (Kris Markarian ed., 3d ed. 2011) (“Rule 10b-5 was promulgated under § 10(b), which gives the SEC power to make rules prohibiting the use of ‘manipulative or deceptive device[s] or contrivance[s] . . . in connection with the purchase or sale of any security . . . .’”).

11. 17 C.F.R. § 240.10b-5.

Co.<sup>12</sup> Other courts followed suit,<sup>13</sup> and in 1971 the Supreme Court approved a private cause of action.<sup>14</sup> Section 10(b) and Rule 10b-5 are the most widely used antifraud provisions in federal securities law.<sup>15</sup>

A Rule 10b-5 plaintiff must plead and prove the following elements: (1) a material misrepresentation or omission; (2) scienter, namely a wrongful state of mind; (3) a connection with the purchase or sale of a security; (4) reliance; (5) economic loss; and (6) loss causation.<sup>16</sup> This Article analyzes the sixth element, loss causation. The analysis shows that loss causation does not exist and a defendant escapes liability if scientists cannot ex ante predict the corrective disclosure on which the plaintiff's loss causation theory is predicated. In this unique subset of cases, there is no liability, even if all other Rule 10b-5 elements are satisfied.

## II. LOSS CAUSATION

To prevail on a claim under Section 10(b) of the Securities Exchange Act of 1934 and Rule 10b-5 of the Securities and Exchange Commission, the defrauded plaintiff must prove *loss causation*, broadly defined as a causal connection between a defendant's fraud and the plaintiff's economic loss.<sup>17</sup> Neither the Securities Exchange Act of 1934 nor SEC Rule 10b-5 specifies

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12. 69 F. Supp. 512, 514 (E.D. Pa. 1946) (“[I]n view of the general purpose of the act, the mere omission of an express provision for civil liability is not sufficient to negative what the general law implies.”).

13. See, e.g., LOUIS LOSS, SECURITIES REGULATION 1049–50 (1951) (explaining how the Kardon court's recognition of an implied cause of action “has . . . been followed in almost two score other cases” and “[n]o judge has expressed himself to the contrary”).

14. Superintendent of Ins. v. Bankers Life & Cas. Co., 404 U.S. 6, 13 n.9 (1971); see also THOMAS LEE HAZEN, THE LAW OF SECURITIES REGULATION § 12.3[1], at 441 (6th ed. 2009) (describing evolution of implied right of action under Rule 10b-5).

15. See, e.g., Ferrell, *supra* note 8, at 32.

16. Dura Pharms., Inc. v. Broudo, 544 U.S. 336, 341–42 (2005).

17. See 15 U.S.C. § 78u–4(b)(4) (“In any private action arising under this chapter, the plaintiff shall have the burden of proving that the act or omission of the defendant alleged to violate this chapter caused the loss for which the plaintiff seeks to recover damages.”); see also *Dura Pharms.*, 544 U.S. at 336 (describing loss causation in that case as a “causal connection between the spray device misrepresentation and the economic loss”).

loss causation as an element of a securities fraud action. It is a judicially created element that is rooted in the common law.<sup>18</sup>

Loss causation is one of the most commonly litigated issues in securities fraud actions, featuring prominently in every phase of a securities fraud case, including pleadings, class certification, summary judgment, trial, appeals, and other post-trial motions.<sup>19</sup> It has long been a requirement in common law actions for misrepresentation and deceit,<sup>20</sup> but *Schlick v. Penn-Dixie Cement Corp.*<sup>21</sup> was the first federal circuit court opinion to recognize loss causation as a distinct element of a Rule 10b-5 action.<sup>22</sup>

The Private Securities Litigation Reform Act of 1995 (PSLRA) codified the loss causation requirement by adding

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18. See, e.g., Jill E. Fisch, *Cause for Concern: Causation and Federal Securities Fraud*, 94 IOWA L. REV. 811, 815 (2009) (“The federal courts . . . have used federal common law to define the contours of the [10b-5] cause of action. Thus, the elements of a federal securities fraud claim, including the causation requirement, are largely judge-made law.”); Ryan S. Thorson, *Securities Law—The Artificially Inflated Purchase Price Theory: An Economically Sound Yet Legally Insufficient Method of Pleading and Proving Loss Causation*, *Dura Pharmaceuticals v. Broudo*, 6 WYO. L. REV. 623, 628 (2006) (“Loss causation was not an element of a securities fraud cause of action under either the Securities Exchange Act of 1934 or under SEC Rule 10b-5. Loss causation is a judicially created element of a securities fraud action, and . . . it has historical roots in the common law . . .”).

19. See Jordan Eth & Su-Han Wang, *Recent Developments in Loss Causation, in Handling a Securities Case 2013: From Investigation to Trial and Everything in Between*, in CORPORATE LAW AND PRACTICE COURSE HANDBOOK SERIES NUMBER B-2021 247, 251 (2013); Charles F. B. McAleer, Jr. & Yvonne M. Williams, *Loss Causation: A Durable Concept*, 2006 BUS. TORTS J. 12, 12 (“Nowhere in the law have causation issues received more attention than in fraud cases, particularly securities fraud cases.”).

20. See, e.g., *Dura Pharms.*, 544 U.S. at 344 (2005) (discussing how loss causation is a requirement in common law deceit and misrepresentation actions); Ferrell & Saha, *supra* note 5, at 3 (finding that if “no injury is occasioned by the lie, it is not actionable” (citing *Pasley v. Freeman* [1789] 100 Eng. Rep. 450, 457 (K.B.))); Rapp, *supra* note 2, at 391 (“With the implied private right of action under section 10(b) and Rule 10b-5 rooted in the common law of fraud and deceit, loss causation, or the common law analog ‘proximate cause’, of an economic loss by alleged fraud or fraudulent conduct, has always been a substantive element of investor claims.”).

21. 507 F.2d 374, 380–81 (2d Cir. 1974).

22. Ferrell & Saha, *supra* note 5, at 3; Fisch, *supra* note 18, at 864 (describing the *Schlick* court as “the source of the causation requirement in federal securities fraud”).

Section 21D(b)(4) to the Securities Exchange Act of 1934.<sup>23</sup> This provision, entitled “Loss Causation,” provides that plaintiffs in private fraud actions “shall have the burden of proving that the act or omission of the defendant . . . caused the loss for which the plaintiff seeks to recover damages.”<sup>24</sup> The provision codifies the loss causation requirement developed by the courts,<sup>25</sup> but provides little guidance on interpreting, pleading, and proving loss causation.<sup>26</sup> The judiciary filled the legislative void, and the construction of loss causation evolved through judicial decision-making.<sup>27</sup>

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23. See Private Securities Litigation Reform Act of 1995, Pub. L. No. 104–67, § 101(b), 109 Stat. 737, 747 (codified as amended at 15 U.S.C. § 78u-4(b)(4) (2021)).

24. 15 U.S.C. § 78u-4(b)(4); see also *Berkeley Inv. Grp. v. Colkitt*, 455 F.3d 195, 208 n.15 (3d Cir. 2006) (“Under the Private Securities Litigation Reform Act of 1995, Congress codified the common law loss causation requirement as a statutory element of a Section 10(b) private cause of action.”).

25. Fisch, *supra* note 18, at 822 (“It is clear that Congress intended, in section 21D(b)(4), to codify some version of the loss causation requirement that the courts had previously developed and, through that requirement, to provide a limiting principle for calculation of the plaintiff’s losses. Congress also clarified that loss causation was a required element of the plaintiff’s case, as opposed to an affirmative defense for which the defendant would bear the burden of proof.”).

26. See, e.g., Lawrence A. Steckman & Robert E. Conner, *Loss Causation Under Rule 10b-5 A Circuit by Circuit Analysis: When Should Representational Misconduct Be Deemed the Cause of Legal Injury Under the Federal Securities Laws?*, in SECURITIES ARBITRATION B-1061(1) 375, 396–97 (P.L.I. Corp. L. & Prac. ed., 1998); Andrew M. Erdlen, *Timing Is Everything: Markets, Loss, and Proof of Causation in Fraud on the Market Actions*, 80 FORDHAM L. REV. 877, 893 (“[T]he PSLRA . . . codified loss causation, but provided very little guidance to the courts.”); Fisch, *supra* note 18, at 813 n.6 (“Congress codified the loss causation requirement as part of the Private Securities Litigation Reform Act of 1995 without defining loss causation or evidencing any intention to depart from the existing judge-made definition.”); Olazábal, *supra* note 1, at 348 (“[The] loss causation provision [in the PSLRA] fails to clarify what properly suffices to plead or prove the causation element.”); Jeffrey W. Stempel, *Class Actions and Limited Vision: Opportunities for Improvement Through a More Functional Approach to Class Treatment of Disputes*, 83 WASH. U.L.Q. 1127, 1184 (2005) (“[T]he PSLRA requires only that there be proof of loss—it does not specify the acceptable methodologies for demonstrating such proof.”).

27. See, e.g., Buell, *supra* note 8, at 545 (“The law of securities fraud is one of the most heavily judicially created bodies of federal law.”); Michael J. Kaufman, *At a Loss: Congress, the Supreme Court and Causation Under Federal Securities Law*, 2 N.Y.U. J.L. & BUS. 1, 19 (2005) (“[C]ommon law fraud causation authorities guide the judicial construction of the PSLRA’s loss causation language.”); Devin F. Ryan, Comment, *Yet Another Bough on the “Judicial Oak”: The Second Circuit Clarifies Inquiry Notice and Its Loss Causation Requirement Under the PSLRA in Lentell v. Merrill Lynch & Co.*, 79

The circuit courts were initially divided in their interpretation of the statutory requirement.<sup>28</sup> Under the majority view, loss causation requires proof of a causal link between the defendant's fraud and actual economic losses to the plaintiff.<sup>29</sup> In contrast, a minority view held that plaintiffs need only show that their purchase price was inflated because of the misrepresentation.<sup>30</sup>

On April 19, 2005, in *Dura Pharmaceuticals, Inc. v. Broudo*,<sup>31</sup> the United States Supreme Court reconciled the conflicting approaches among the circuit courts.<sup>32</sup> In a unanimous decision, the Court established that merely alleging

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ST. JOHN'S L. REV. 485, 508 (2005) ("The indispensable element of causation under the federal securities laws was judge-made and was principally bottomed in tort law theory."); Thorson, *supra* note 18, at 628–29.

28. Hill, *supra* note 8, at 2673–74 ("The U.S. Courts of Appeals for the Eighth and Ninth Circuits followed what can be called the 'date of purchase' pleading standard. Under this interpretation, plaintiffs may adequately plead loss causation by alleging that loss occurred at the moment that the defendant's security was purchased . . . The U.S. Courts of Appeals for the Second, Third, Seventh, and Eleventh Circuits rejected this view. These courts required loss pleading in addition to merely alleging an artificially inflated stock price at the time of purchase. Under this standard, the plaintiff must plead actual economic loss caused by a market correction, occurring in response to a public disclosure revealing the defendant's misrepresentation, which in actuality decreased an inflated stock price to its intrinsic value.")

29. See, e.g., Emergent Cap. Inv. Mgmt., LLC v. Stonepath Grp., Inc., 343 F.3d 189, 192 (2d Cir. 2003) ("We think that the second amended complaint contains legally sufficient allegations of a causal connection between the subject matter of these omissions and the ultimate decline in NETV's stock value, that is, loss causation."); Robbins v. Koger Props., Inc., 116 F.3d 1441, 1448 (11th Cir. 1997) ("Our decisions explicitly require proof of a causal connection between the misrepresentation and the investment's subsequent decline in value.")

30. See, e.g., Gebhardt v. ConAgra Foods, Inc., 335 F.3d 824, 832 (8th Cir. 2003) ("The fraud-on-the-market theory . . . allow[s] the fact finder to presume that the stock's price reflected the inflated earnings, and it makes sense to conclude that the plaintiffs were harmed when they paid more for the stock than it was worth. This is a sufficient allegation."); Broudo v. Dura Pharms., Inc., 339 F.3d 933, 939 (9th Cir. 2003), *rev'd*, 544 U.S. 336 (2005) (same); Knapp v. Ernst & Whinney, 90 F.3d 1431, 1438 (9th Cir. 1996) ("[P]laintiffs establish loss causation if they have shown that the price on the date of purchase was inflated because of the misrepresentation.")

31. 544 U.S. 336 (2005).

32. The Supreme Court granted certiorari on the narrow question of "[w]hether a securities fraud plaintiff invoking the fraud-on-the-market theory must demonstrate loss causation by pleading and proving a causal connection between the alleged fraud and the investment's subsequent decline in price." Brief for Petitioners at i, *Dura Pharms., Inc. v. Broudo*, 544 U.S. 336 (2005) (No. 03-932).

price inflation due to a material misrepresentation or omission does not sufficiently plead loss causation in a fraud-on-the-market case.<sup>33</sup> Rather, a plaintiff needs to plead and prove that the defendant's fraudulent conduct *proximately caused* the plaintiff's economic loss.<sup>34</sup> Scholars who analyzed the *Dura* opinion observe that it "says no less than seven times that *proximate causation* is the standard for loss causation."<sup>35</sup>

The Supreme Court's interpretation of loss causation is authoritative but did not break new ground.<sup>36</sup> A majority of

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33. *Dura Pharms., Inc.*, 544 U.S. at 342 ("We begin with the Ninth Circuit's basic reason for finding the complaint adequate, namely, that at the end of the day plaintiffs need only 'establish,' *i.e.*, prove, that 'the price *on the date of purchase* was inflated because of the misrepresentation' . . . In our view, this statement of the law is wrong.")

34. *Id.* (noting the common-law roots of the securities fraud action (and the common-law requirement that a plaintiff show "actual damages") and holding that the defendant's statement must "proximately cause the relevant economic loss"); *see also* Merritt B. Fox, *After Dura: Causation in Fraud-on-the-Market Actions*, 31 J. CORP. L. 829, 847 (2006) ("[P]roof at trial must provide evidence that the inflated purchase price proximately caused an economic loss.")

35. *See* Frederick C. Dunbar & Marcia Kramer Mayer, *Dura and the New Vocabulary of Litigation Under Rule 10b-5*, NERA ECON. CONSULTING, Jan. 2006, at 14 n.21.

36. *See, e.g.*, Ian Ackerman, Note, *Forgive and Forget (The Efficient Amnesiac): Loss Causation in a Well-Developed Post Dura Market*, 25 ANN. REV. BANKING & FIN. L. 557, 566 (2006) (asserting that the *Dura* Court reasonably concluded "that Congress merely intended to codify the traditional loss causation or proximate cause requirement long applied by the courts").

courts,<sup>37</sup> as well as academic commentators<sup>38</sup> and practitioners,<sup>39</sup> have embraced the interpretation of loss

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37. See Frederick C. Dunbar & Arun Sen, *Counterfactual Keys to Causation and Damages in Shareholder Class-Action Lawsuits*, 2009 WIS. L. REV. 199, 218 (2009) (“The vast majority of courts have used the proximate cause standard, mentioned in *Dura* . . . .”); see also *Mineworkers’ Pension Scheme v. First Solar, Inc.*, 881 F.3d 750, 752 (9th Cir. 2018) (concluding that a general proximate cause test is the proper test for loss causation under the Securities Exchange Act of 1934); *Lloyd v. CVB Fin. Corp.*, 811 F.3d 1200, 1210 (9th Cir. 2016) (“Because loss causation is simply a variant of proximate cause . . . the ultimate issue is whether the defendant’s misstatement, as opposed to some other fact, foreseeably caused the plaintiff’s loss.”); *Teachers’ Ret. Sys. of La. v. Hunter*, 477 F.3d 162, 185 (4th Cir. 2007) (“[A] plaintiff must . . . prove that the defendant’s misrepresentations proximately caused the plaintiff’s economic loss . . . .”); *Berkeley Inv. Grp. v. Colkitt*, 455 F.3d 195, 222 (3d Cir. 2006) (“Causation in the securities context is strikingly similar to the familiar standard in the torts context, but with different labels. In the securities realm . . . ‘proximate cause’ is known as ‘loss causation.’”); *Emergent Cap. Inv. Mgmt v. Stonepath Grp.*, 343 F.3d 189, 197 (2d Cir. 2003) (“We have often compared loss causation to the tort law concept of proximate cause, ‘meaning that the damages suffered by plaintiff must be a foreseeable consequence of any misrepresentation or material omission.’” (citing *Castellano v. Young & Rubicam, Inc.*, 257 F.3d 171, 186 (2d Cir. 2001))); *Castellano*, 257 F.3d at 186 (“While transaction causation is generally understood as reliance, loss causation has often been described as proximate cause, meaning that the damages suffered by plaintiff must be a foreseeable consequence of any misrepresentation or material omission.” (referencing *Suez Equity Invs. v. Toronto-Dominion Bank*, 250 F.3d 87, 96 (2d Cir. 2001))); *AUSA Life Ins. Co. v. Ernst & Young*, 206 F.3d 202, 226 (2d Cir. 2000) (“[L]oss causation closely corresponds to the common law principle of proximate cause.”); *Semerenko v. Cendant Corp.*, 223 F.3d 165, 185 (3d Cir. 2000) (“[A]n investor must also establish that the alleged misrepresentation proximately caused the decline in the security’s value to satisfy the element of loss causation.”); *Robbins v. Koger Props., Inc.*, 116 F.3d 1441, 1447 (11th Cir. 1997) (citing *Huddleston v. Herman & MacLean*, 640 F.2d 534, 549 (5th Cir. 1981), *aff’d in part and rev’d in part on other grounds*, 459 U.S. 375 (1983)); *Litton Indus v. Lehman Bros. Kuhn Loeb Inc.*, 967 F.2d 742, 747 (2d Cir. 1992) (noting that causation corresponds with the common law notion of proximate causation in a causation analysis); *Mfrs. Hanover Tr. Co. v. Drysdale Secs. Corp.*, 801 F.2d 13, 20 (2d Cir. 1986) (“Loss causation derives from the common law tort concept of ‘proximate causation.’”); *Huddleston*, 640 F.2d at 549 (“The plaintiff must prove . . . that the untruth was in some reasonably direct, or proximate, way responsible for his loss.”); *Spreitzer v. Hawkeye State Bank*, 779 N.W.2d 726, 742 (Iowa 2009) (stating that the plaintiff must establish “that the fact misrepresented increased the risk of the specific damages claimed”).

38. See HAZEN, *supra* note 14, at 479–81 (describing the analysis of loss causation as similar to the analysis of proximate cause); Bradford Cornell & James C. Rutten, *Collateral Damage and Securities Litigation*, 3 UTAH L. REV. 717, 744 (2009) (“Loss causation is the securities law equivalent of proximate causation.”); Dunbar & Sen, *supra* note 37, at 218 (“The vast majority of courts have used the proximate cause standard, mentioned in *Dura*.”); Fisch, *supra*

causation as a proximate causal relation between a defendant's fraud and a plaintiff's economic loss. For instance, Professor Robert N. Rapp describes loss causation as "the proximate causal link between alleged misconduct in violation of section 10(b) and Rule 10b-5 and a plaintiff's economic harm."<sup>40</sup> Professor Thomas Lee Hazen describes the analysis of loss causation as similar to the analysis of proximate cause,<sup>41</sup> and Professor Barbara Black explains that "[t]he requirement of loss causation derives from the tort concept of proximate causation."<sup>42</sup> On January 31, 2018, the Ninth Circuit held that

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note 18, at 816 (2009) ("Subsequent courts have analogized loss causation to proximate or legal cause"); Jason N. Haycock, *Pleading a Loss Cause: Resolving the Pleading Standard for the Element of Loss Causation in a Private Securities Fraud Claim and a Plaintiff's Heavy Burden Pleading it Under Iqbal*, 60 AM. U. L. REV. 173, 182 (2010) ("Analytically, loss causation is often best understood as analogous to the tort element of 'proximate cause.'"); Justin D. Levinson & Kaiping Peng, *Different Torts for Different Cohorts: A Cultural Psychological Critique of Tort Law's Actual Cause and Foreseeability Inquiries*, 13 S. CAL. INTERDISC. L.J. 195, 200 (2004) ("[The inquiry as] to whether there is proximate cause [or loss causation], [is] an inquiry driven by policy considerations such as whether the law should hold the defendant legally responsible for the harm caused by the defendant's [wrong]."); Andrew J. Morris & Lucius Outlaw, *Clarifying Loss Causation: Reconciling the 'Zone of Risk' Test With Dura Pharmaceuticals*, 38 SEC. REG. & L. REP., 1910, 1911 (2006) ("[T]he [Dura] Court emphasized the distinctness of the loss causation requirement, and placed that requirement squarely in the tradition of proximate cause law and scholarship."); Ryan, *supra* note 27, at 509 ("[L]oss causation, the far more subtle stepchild of causation, is arguably analogous to the tort concept of proximate or legal causation."); Hillary A. Sale & Robert B. Thompson, *Market Intermediation, Publicness and Securities Class Actions*, 93 WASH. U.L. REV. 487, 498 (2015) ("Loss causation responds to the legal and policy concerns that the plaintiffs should not be insured against market changes. This element plays the intervening or proximate cause role that the *Palsgraf* case plays in traditional tort cases." (citing Donald C. Langevoort, *Basic at Twenty: Rethinking Fraud on the Market*, 2009 WIS. L. REV. 151, 181–84 (discussing the Dura Court's analysis of loss causation))).

39. See, e.g., David B. Saxe & Danielle C. Lesser, *Loss Causation in Securities Fraud Cases*, N.Y.L.J. 1, 1 (2017) ("Proximate cause is a vital element in negligence cases, but is also an important element in securities fraud cases, where it is known as loss causation.").

40. Rapp, *supra* note 2, at 391.

41. HAZEN, *supra* note 14, at 479–81.

42. Barbara Black, *The Second Circuit's Approach to the "In Connection With" Requirement of Rule 10b-5*, 79 FACULTY ARTICLES & OTHER PUBL'NS 539, 554 (1987).

“a general proximate cause test . . . is the proper test” for loss causation under Section 10(b) and Rule 10b-5.<sup>43</sup>

### III. PROXIMATE CAUSE

Proximate cause may be broadly (if somewhat tautologically) defined as “a reasonably close connection between a defendant’s wrongdoing and the plaintiff’s injury.”<sup>44</sup> It protects defendants from liability for consequences that—as a matter of “fairness, policy, and practicality”—fall beyond the scope of their moral accountability.<sup>45</sup>

Proximate cause is a dualism. It is governed by two doctrines, namely the reasonable foresight doctrine and the direct consequences doctrine.<sup>46</sup> The reasonable foresight

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43. *Mineworkers’ Pension Scheme v. First Solar, Inc.*, 881 F.3d 750, 755 (9th Cir. 2018) (citing *Dura Pharms., Inc. v. Broudo*, 544 U.S. 336, 346 (2005)); *accord* *Lloyd v. CVB Fin. Corp.*, 811 F.3d 1200, 1210 (9th Cir. 2016); *Loos v. Immersion Corps*, 762 F.3d 880, 887 (9th Cir. 2014); *In re Oracle Sec. Litig.*, 627 F.3d 376, 394 (9th Cir. 2010); *In re Daou Sys., Inc. Sec. Litig.*, 411 F.3d 1006, 1025 (9th Cir. 2005).

44. David G. Owen, *Idea: The Five Elements of Negligence*, 35 HOFSTRA L. REV. 1671, 1681 (2007); *see* *Robbins v. Koger Props.*, 116 F.3d 1441, 1447 (11th Cir. 1997) (requiring the plaintiff to show that the defendant’s fraud caused the loss “in some reasonably direct, or proximate, way” (quoting *Huddleston v. Herman & MacLean*, 640 F.2d 534, 549 (5th Cir. 1981))).

45. Owen, *supra* note 44, at 1681 (“[P]roximate cause addresses instead the question of whether in logic, *fairness, policy, and practicality*, the defendant ought to be held legally accountable for the plaintiff’s harm) (emphasis added); *SEC v. Teo*, 746 F.3d 90, 107 (3d Cir. 2013); *CSX Transp., Inc. v. McBride*, 564 U.S. 685, (2011); *Holmes v. Sec. Inv’r Prot. Corp.*, 503 U.S. 258, 268 (1992) (referring to proximate cause as a generic name for a set of tools courts “[use] to limit a person’s responsibility for the consequences of that person’s own acts”); DAN B. DOBBS ET AL., *THE LAW OF TORTS* 686–87 (2d ed. 2011) (“The function of proximate cause rules is to facilitate or express a value judgment about the appropriate scope of liability of a defendant who is negligent and whose negligence in fact causes harm.”); Fox, *supra* note 34, at 831 (“The function of the loss causation requirement, like the function of proximate cause in actions for negligence, was to prevent the wrongdoer from being responsible for all the consequences for which his action was a but for cause, i.e., all the losses, however unrelated to the misstatement, that the plaintiff might suffer over time as a result of purchasing this security.”); Mark F. Grady, *Proximate Cause Decoded*, 50 UCLA L. REV. 293, 315 n.71 (2002) (describing proximate cause as a “liability-limiting doctrine . . . [that] creates an impact only by barring liability”); Richard W. Wright, *Causation in Tort Law*, 73 CALIF. L. REV. 1735, 1741 (1985) (“Causation is *not* equivalent to responsibility.”).

46. *See* DOBBS ET AL., *supra* note 45, at 451–70 (“When there is a sequence of events leading to the plaintiff’s injury, in order to hold the defendant liable for damages, the cardinal rule of proximate causation in tort law is that the plaintiff’s harm must have been the direct (as opposed to the indirect or remote)

doctrine asks whether the type of harm suffered by the plaintiff was reasonably foreseeable at the time of the defendant's wrongdoing.<sup>47</sup> The direct consequences doctrine examines whether an intervening cause between the defendant's wrongdoing and the plaintiff's harm supersedes and therefore cuts off the liability of the defendant.<sup>48</sup> Both doctrines must be satisfied for proximate cause to exist. The plaintiff's loss must be both directly caused by the challenged conduct and be a reasonably foreseeable result of it.<sup>49</sup>

Loss causation, as a proximate causal relation, must likewise satisfy the duality requirement of foreseeability and directness. The duality interpretation of loss causation in securities fraud litigation is supported by common law

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and foreseeable (as opposed to unforeseeable) consequence of the defendant's acts in a causal chain of events, unbroken by any intervening, superseding cause."); Mark F. Grady, *Causation and Foreseeability*, in RESEARCH HANDBOOK ON THE ECONOMIC ANALYSIS OF TORTS 136 (Jennifer Arlen ed., 2013) ("[T]he traditional doctrine of proximate cause represents two branches that must both be satisfied: the reasonable-foresight doctrine and the direct-consequences doctrine."); Peter N. Swisher, *Causation Requirements in Tort and Insurance Law Practice: Demystifying Some Legal Causation Riddles*, 43 TORT TRIAL & INS. PRAC. L.J. 1, 12 (2007) (citing W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS 272-300 (5th ed. 1984)).

47. See Grady, *supra* note 45, at 299 (explaining how the reasonable foresight doctrine examines whether a systematic relationship existed between the plaintiff's harm and the defendant's breach of duty); Owen, *supra* note 44, at 1683 ("Under [the reasonable foresight] test, the responsibility of an actor for the consequences of wrongful action is limited by principles of reasonable foreseeability.").

48. See Grady, *supra* note 45, at 299 ("The direct consequences doctrine of proximate cause examines concurrent causes [of the plaintiff's loss] to see whether the person responsible for the second cause has cut off the liability of the person responsible for the first cause.").

49. See, e.g., Swisher, *supra* note 46 and accompanying text.

precedent<sup>50</sup> and academic commentators.<sup>51</sup> For instance, in *Suez Equity Investors v. Toronto-Dominion Bank*,<sup>52</sup> the Second Circuit defines loss causation explicitly in terms of directness and foreseeability: “The loss causation inquiry typically examines how directly the subject of the [defendant’s misstatement or omission] caused the [plaintiff’s] loss, and whether the resulting loss was a foreseeable outcome of the [misstatement or omission].”<sup>53</sup>

The common law also interprets loss causation as a liability-limiting doctrine that serves the same policy goals underlying the tort concept of proximate cause.<sup>54</sup> Professor Lawrence Steckman explains:

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50. *McCabe v. Ernst & Young LLP*, 494 F.3d 418, 430 (3d Cir. 2007) (“The loss causation inquiry typically examines how directly the subject of the fraudulent statement caused the loss, and whether the resulting loss was a foreseeable outcome of the fraudulent statement.” (quoting *Berkeley Inv. Grp. v. Colkitt*, 455 F.3d 195, 222 (3d Cir. 2006))); *Lentell v. Merrill Lynch Co.*, 396 F.3d 161, 172–74 (3d Cir. 2005) (“[D]amages suffered by plaintiff must be a foreseeable consequence of any misrepresentation or material omission . . . [and] loss causation has to do with the relationship between the plaintiff’s investment loss and the information misstated or concealed by the defendant . . . . If that relationship is sufficiently direct, loss causation is established.”); *First Nationwide Bank v. Gelt Funding Corp.*, 27 F.3d 763, 769 (2d Cir. 1994) (“Many considerations enter into the proximate cause inquiry including the foreseeability of the particular injury, the intervention of other independent causes, and the factual directness of the causal connection.” (quotation omitted)).

51. See, e.g., Lawrence A. Steckman et al., *Loss Causation, Economic Loss Rules and Offset Defenses—Dismissal Motion Practice After Acticon A.G. v. China Northeast Petroleum Holdings Ltd.*, 31 *TOURO L. REV.* 501, 516 (2015) (“[The doctrine of loss causation] preclud[es] recovery when injury was neither foreseeable nor a direct (causal) result of the challenged conduct.”).

52. 250 F.3d 87 (2d Cir. 2001).

53. *Id.* at 96.

54. See, e.g., *First Nationwide Bank*, 27 F.3d at 769 (describing how loss causation is intended “to fix a legal limit on a person’s responsibility, even for wrongful acts”); *McCabe*, 494 F.3d at 425 (“[L]oss causation focuses on whether the defendant should be held responsible as a matter of public policy for the losses suffered by the plaintiff.”); accord *Lattanzio v. Deloitte & Touche LLP*, 476 F.3d 147, 156 (2d Cir. 2007) (“Loss causation . . . ’is intended to fix a legal limit on a person’s responsibility even for wrongful acts,’ and it requires that the plaintiff’s loss be foreseeable.”); *Berkeley Inv. Group*, 455 F.3d at 222 (“Similar to the concept of proximate cause in the tort context, loss causation focuses on whether the defendant should be held responsible as a matter of public policy for the losses suffered by the plaintiff.”); *Suez Equity Investors LP v. Toronto-Dominion Bank*, 250 F.3d 87, 96 (2d Cir. 2001) (“In the end, whether loss causation has been demonstrated presents a public policy question, the resolution of which is predicated upon notions of equity because it establishes

The policy behind loss causation is the same as that which underlies the concept of tort law proximate causation, namely avoidance of recovery of potentially unlimited damage claims that would contravene public policy and turn errant defendants into windfall guarantors. It does so by precluding recovery when injury was neither foreseeable nor a direct (causal) result of the challenged conduct.<sup>55</sup>

In summary, the common law interprets loss causation as a proximate causal relation, (1) as a matter of Supreme Court precedent, (2) as a directness/foreseeability dualism, and (3) as a liability-limiting doctrine that serves the same policy goals underlying the tort concept of proximate cause.

#### IV. REASONABLE FORESIGHT

The reasonable foresight doctrine asks whether the type of harm suffered by the plaintiff was reasonably foreseeable at the time of the defendant's wrongdoing.<sup>56</sup> The basic test of foreseeability can be described as "whether one can see a systematic relationship between the type of [harm] that the plaintiff suffered and . . . the defendant's [wrongdoing]."<sup>57</sup>

A medical example provides a good illustration. Medical opinion is near unanimous that lung cancer is a foreseeable consequence of human exposure to tobacco smoke.<sup>58</sup> Clinical

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who, if anyone, along the causal chain should be liable for the plaintiffs' losses."); *Castellano v. Young & Rubicam, Inc.*, 257 F.3d 171, 186 (2d Cir. 2001) (quoting *First Nationwide Bank*, 27 F.3d at 769); *Cornell & Rutten*, *supra* note 38, at 745 ("[L]oss causation, like common law proximate causation, is not just analytically driven—it is policy driven as well."); *Fisch*, *supra* note 18, at 825 ("*Dura* established loss causation as the key gatekeeping mechanism for private securities fraud litigation."); *Fox*, *supra* note 34, at 831 ("The function of the loss causation requirement, like the function of proximate cause in actions for negligence, was to prevent the wrongdoer from being responsible for all the consequences for which his action was a 'but for' cause, i.e., all the losses, however unrelated to the misstatement, that the plaintiff might suffer over time as a result of purchasing this security."); *Sale & Thompson*, *supra* note 38, at 498 ("Loss causation responds to the legal and policy concerns that the plaintiffs should not be insured against market changes. This element plays the intervening or proximate cause role that the *Palsgraf* case plays in traditional tort cases.").

55. *Steckman et al.*, *supra* note 51, at 516.

56. See *Thomas J. Miceli, THE ECONOMIC APPROACH TO LAW* 61 (3rd ed. 2004) ("[T]he reasonable foresight test asks whether a reasonable person would have foreseen that his failure to meet the due standard would cause the victim's injuries.").

57. *Grady*, *supra* note 45, at 323.

58. See, e.g., *BRUCE ALBERTS ET AL., ESSENTIAL CELL BIOLOGY* 719 (3d ed. 2010) ("By far the most important environmental cause of cancer in the modern

evidence shows that carcinogens in tobacco smoke interact with human DNA to cause genetic mutations that ultimately result in lung cancer.<sup>59</sup> The carcinogens and the disease-causing mechanisms they initiate define a systematic relationship between tobacco smoke and lung cancer that establishes the requisite foreseeability.

The general common law rule is that the *type* of injury must be foreseeable, rather than its *extent* or *manner* of occurrence.<sup>60</sup> The *reasonable ignorance of the relationship* doctrine of proximate causality creates an exception to the rule.<sup>61</sup> Under the *reasonable ignorance* doctrine the defendant escapes liability when, even though ex post there is clearly a systematic relationship between the defendant's wrongdoing and the

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world . . . is tobacco-smoking, which is not only responsible for almost all cases of lung cancer but also raises the incidence of several other cancers.”); R. BONITA ET AL., BASIC EPIDEMIOLOGY 9 (2d ed. 2006) (“It is now clear that the main cause of increasing lung cancer death rates is tobacco use.”).

59. See, e.g., E. Brambilla & A. Gazdar, *Pathogenesis of Lung Cancer Signalling Pathways: Roadmap For Therapies*, 33 EUR. RESPIRATORY J. 1485, 1486 (2009) (“Among the 20 carcinogens that are present in tobacco smoke and strongly associated with lung cancer development, the best known are polycyclic aromatic hydrocarbons and nicotine-derived nitroso-aminoketone, which lead to genetic mutations through DNA adduct formation.”); Stephen S. Hecht, *Tobacco Smoke Carcinogens and Lung Cancer*, 91 J. NAT'L CANCER INST. 1194, 1194 (1999) (describing how much is now known about the carcinogens in cigarette smoke, their conversion to forms that react with DNA, and the miscoding properties of the resulting DNA adducts that cause the many genetic changes known to exist in human lung cancer).

60. See ERIC E. JOHNSON, 1 TORTS: CASES AND CONTEXT 331 (2015) (“The general rule is that an unforeseeable extent of harm will not cause a failure of proximate causation. Alternatively stated, under the eyes of the law, the extent of the harm, no matter how great, is considered to be foreseeable.”); Michael D. Green, *The Federal Employers' Liability Act: Sense and Nonsense About Causation*, 61 DEPAUL L. REV. 503, 541 n.196 (2012) (“Harm may occur due to an unusual concatenation of events, but if the harm is reasonably foreseeable or it results from the risks that made the defendant negligent, liability should follow.” (first citing *Derdiarian v. Felix Contracting Corp.*, 414 N.E.2d 666, 670 (N.Y. 1980), then citing Restatement (Third) of Torts: Liab. for Physical & Emotional Harm §29 cmt. o (2010))); David G. Owen, *Figuring Foreseeability*, 44 WAKE FOREST L. REV. 1277, 1298 (2009) (“It commonly is said that responsibility requires only that an actor foresee the *type* of harm, not the *manner* of harm nor the *extent* of harm.” (emphasis added) (citing Restatement (Third) of Torts: Liab. for Physical Harm § 29 cmt. i (Proposed Final Draft No. 1, 2005) (addressing levels of generality in conceiving “type of harm”)); see also Restatement (Third) of Torts: Liab. for Physical Harm § 29 cmt. o (Proposed Final Draft No. 1, 2005) (addressing “manner of harm”); *id.* at § 29 cmt. p (addressing “extent of harm”); *id.* at § 29 cmt. i (addressing “type of harm”).

61. See Grady, *supra* note 45, at 328.

plaintiff's harm, scientists could not predict the relationship ex ante.<sup>62</sup>

The classic *reasonable ignorance* case is *Overseas Tankship (UK) Ltd. v. Morts Dock & Engineering Co. (The Wagon Mound No. 1)*.<sup>63</sup> In *Wagon Mound No. 1*, a tank ship, the *Wagon Mound*, was loading furnace oil at the Caltex Wharf in Sydney, Australia.<sup>64</sup> The plaintiffs owned a wharf where their employees were doing welding work on a ship, the *Corrimal*.<sup>65</sup> The *Wagon Mound* negligently discharged oil that spread over the bay and under the plaintiff's wharf.<sup>66</sup> The plaintiffs' operations manager saw the oil on the water, and gave instructions that no welding was to be done.<sup>67</sup> He then discussed the situation with the manager of the Caltex Wharf, who assured him that it was safe for normal welding operations to continue because there was no apparent fire hazard.<sup>68</sup> The fuel oil floating on the water could not ignite because the oil could not normally reach its flashpoint of 170 degrees Fahrenheit (about seventy-seven degrees Celsius) while floating on the surface of the water.<sup>69</sup> With this reassurance, welding operations resumed.<sup>70</sup>

After a while, the oil caught fire, causing substantial damage to the plaintiffs' wharf and another ship docked in the vicinity.<sup>71</sup> The oil ignited in an unusual manner. Some debris

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62. See *id.*; see also Lara Khoury & Stuart Smyth, *Reasonable Foreseeability and Liability in Relation to Genetically Modified Organisms*, 27 BULL. SCI. TECH. & SOC'Y 215, 225 (2007) (discussing how uncertainty as to the impact of biotechnological activities makes it "less likely it is that the courts will find that [an] injury was foreseeable"); Benjamin C. Zipursky, *Foreseeability in Breach, Duty, and Proximate Cause*, 44 WAKE FOREST L. REV. 1247, 1257 (2009) ("Imagine a plaintiff arguing that a developer could have cheaply rendered the fireplace in a house more heat-resistant by using a specially engineered, low-cost resin. Is it relevant whether the technology for the resin was available or discoverable to a reasonable architect when the house was built? Of course it is.").

63. *Overseas Tankship (U.K.) Ltd. v. Morts Dock & Eng'g Co. (The Wagon Mound No. 1)* [1961] AC 388 (PC) (appeal taken from New S. Wales) (U.K.).

64. *Id.* at 390.

65. *Id.*

66. *Id.* at 390–91.

67. *Id.* at 391.

68. *Id.*

69. See Kit Barker et al., *THE LAW OF TORTS IN AUSTRALIA* 559 (5th ed. 2012).

70. *Overseas Tankship (U.K.) Ltd. v. Morts Dock & Eng'g Co. (The Wagon Mound No. 1)* [1961] A.C. 388 (PC) 391 (appeal taken from New S. Wales) (U.K.).

71. *Id.*

attached to a piece of cotton had been floating on the water under the oil layer, invisible to any observer.<sup>72</sup> A welder's torch set off sparks that struck the cotton.<sup>73</sup> The cotton smoldered for a while and eventually acquired sufficient heat to ignite the oil, causing the fire that burned down the dock.<sup>74</sup>

The dock owner sued the charterers of the Wagon Mound, alleging that the destruction of his wharf was caused by the negligence of the defendant's employees.<sup>75</sup> Based on the trial court's finding that "the defendant did not know and could not reasonably be expected to have known that [the furnace oil] was capable of being set afire when spread on water," the Privy Council held that the defendants were not liable for the fire damage.<sup>76</sup>

The oil spill created several risks, including hazards associated with pollution and fire.<sup>77</sup> The risk of pollution was foreseeable, but did not cause the harm alleged. The fire hazard was unforeseeable, because of the physical nature of the oil.<sup>78</sup> The court accepted the testimony of "a distinguished scientist" who stated that the defendant could not have reasonably foreseen that the particular kind of oil would be flammable when spread on water.<sup>79</sup> The Privy Council therefore denied liability on foreseeability grounds, finding that the defendant was reasonably ignorant of the risk that materialized to cause the plaintiff's harm.<sup>80</sup>

The foreseeability issue in *Doughty v. Turner Manufacturing Co.*<sup>81</sup> turns on analogous facts. In *Doughty*, a

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72. *Id.*

73. *Id.*

74. *Id.*

75. *Id.* at 409.

76. *Id.* at 413; see also ERIC E. JOHNSON, TORTS: CASES AND CONTEXT 342 (2d ed. 2019) (explaining that in *Overseas Tankship* the defendant was reasonably ignorant of capability of furnace oil to ignite, "based on 'a wealth of evidence' including testimony of one Professor Hunter, 'a distinguished scientist'").

77. *Overseas Tankship (U.K.) Ltd. v. Morts Dock & Eng'g Co. (The Wagon Mound No. 1)* [1961] A.C. 388 (PC) 391 (appeal taken from New S. Wales) (U.K.).

78. *Id.* at 389.

79. *Id.* at 413.

80. *Id.* ("The raison d'être of furnace oil is, of course, that it shall burn, but I find the [appellants] did not know and could not reasonably be expected to have known that it was capable of being set afire when spread on water.").

81. *Doughty v. Turner Mfg. Co.* (1964) 1 QB 518 (U.K.).

technician negligently knocked the cover of a vat made of sindanyo, a combination of cement and asbestos, into molten sodium cyanide contained in the vat.<sup>82</sup> A chemical reaction between the molten liquid and the material of the cover caused an eruption that resulted in burn injuries to the plaintiff.<sup>83</sup> The fact that sindanyo could undergo this reaction at sufficiently high temperatures was unknown to scientists at the time.<sup>84</sup>

The type of harm suffered by the plaintiff (burning due to splashing of hot molten liquid) was a foreseeable consequence of the defendants' reckless handling of the liquid, yet the defendants escaped liability.<sup>85</sup> The systematic relationship between the defendants' misconduct and the plaintiff's injury (splashing due to *obscure chemical reaction*) was unknown to scientists, as well as materially different from what was known and foreseeable (splashing due to *mechanical action*).<sup>86</sup> The defendant therefore appropriately escaped liability under the reasonable foresight doctrine.<sup>87</sup>

The next section analyzes the reasonable ignorance doctrine as a liability-limiting mechanism in private securities fraud litigation.

## V. RULE 10B-5 MEETS WAGON MOUND

In a securities fraud action, the corrective disclosure that reveals the defendant's fraud and triggers the plaintiff's

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82. *Id.* at 519.

83. *Id.* at 519–20.

84. *Id.* at 520.

85. *Id.* at 518.

86. Mark F. Grady, *Causation and Foreseeability*, in RESEARCH HANDBOOK ON THE ECONOMIC ANALYSIS OF TORTS 114, 134 (Jennifer Arlen ed., 2013) (“The plaintiff’s lawyer [in *Doughty*] argued that the eruption was a mere variant of mechanical splash risk, but the court decided for the defendant.”).

87. “The basic purpose of reasonable-foresight proximate cause is to cut off liability for ‘unique’ accidents. These are accidents that are *not* mere variants of those that were *ex ante* foreseeable.” *Id.* at 127; *see also* Hughes v. Lord Advocate (1963) 1 All E.R. 705, 710 (U.K.) (Carmont, L.J., dissenting) (rejecting the court’s ruling, stating, “it is said that, while a paraffin fire . . . was a reasonably foreseeable risk so soon as the pursuer got access to the lamp, an explosion was not. To my mind the distinction drawn between burning and explosion is too fine to warrant acceptance”); Mario J. Rizzo, *Law Amid Flux: The Economics of Negligence and Strict Liability in Tort*, 9 J. LEGAL STUD. 291, 303 (1980) (discussing the court’s decision in *Hughes* and explaining, “[h]ere exploding is viewed as a mere variant of a clearly foreseeable type of risk: burning. The plaintiff was thus allowed to recover”).

economic loss is an essential element of the systematic relationship between the fraud and the loss.<sup>88</sup> A defendant may therefore escape liability under the reasonable ignorance doctrine if scientists could not predict the corrective disclosure *ex ante*. The following case provides an illustration.

In *In re Massey Energy Co. Sec. Litig.*,<sup>89</sup> a disastrous explosion at one of the mines of Massey Energy Co., the fourth largest coal producer in the United States, caused the deaths of twenty-nine miners.<sup>90</sup> The price of Massey common stock declined sharply following the accident.<sup>91</sup> Within weeks of the explosion, Massey shareholders who had suffered losses filed a Section 10(b) and Rule 10b-5 claim, alleging that false and misleading statements and omissions by the company about the safety of its mining operations had inflated the price at which they had purchased Massey common stock.<sup>92</sup>

The Court found that plaintiffs had sufficiently alleged loss causation by demonstrating that the defendant's misstatement and omission had concealed a risk that, when revealed by the explosion, caused a decline in the price of Massey common stock.<sup>93</sup> The mine explosion was "a disclosure event in starkest terms."<sup>94</sup>

The court stated:

[T]he explosion and the cause of the explosion revealed to the market the fraudulent nature of which Plaintiffs complain, specifically, that

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88. Rapp, *supra* note 2, at 394 ("However labeled, it is a disclosure event in one form or another that ties the alleged fraud to demonstrable losses." (citing *Lentell v. Merrill Lynch & Co.*, 396 F.3d 161 (2d Cir. 2005)); *Glaser v. Enzo Biochem, Inc.*, 464 F.3d 474, 479 (4th Cir. 2006) ("It is only after the fraudulent conduct is disclosed to the investing public, followed by a drop in the value of the stock, that the hypothetical investor has suffered a 'loss' that is actionable after the Supreme Court's decision in *Dura*."); William F. Sullivan et al., *Pleading and Proving Loss Causation: Litigating Securities Fraud in a Post-Dura World*, PAUL HASTINGS (Nov. 18, 2010), <https://webstorage.paulhastings.com/Documents/PDFs/1771.pdf> (last visited Mar. 16, 2022) ("[A] plaintiff must allege a sufficient connection between the revelation of truth following an alleged misstatement or omission [and subsequent loss] to sufficiently plead loss causation.").

89. 883 F. Supp. 2d 597 (S.D.W. Va. 2012).

90. *Id.* at 601, 605.

91. *Id.* at 608.

92. *Id.* at 608, 612, 625–26.

93. *Id.* at 626; Rapp, *supra* note 2, at 436 ("The court was satisfied that . . . loss causation was properly alleged based on just the explosion." (citing *In re Massey*, 883 F. Supp. 2d at 626)).

94. Rapp, *supra* note 2, at 437.

Defendants [misled] the market about the safety at its mines and its commitment to put production over safety. Therefore, the Court finds that Plaintiffs have sufficiently alleged particular facts supporting an allegation that its losses were caused by Massey's misleading and false statements about the safety of its mines.<sup>95</sup>

A report commissioned by former Governor Joe Manchin, the McAteer Report, attributed the explosion to the ignition of a pocket of methane gas, fueled by coal dust that had been allowed to build up in the mine.<sup>96</sup> The McAteer report found that the ignition and subsequent explosion could have been avoided if the company had complied with basic mine safety requirements.<sup>97</sup>

A brief review of the science governing the genesis and flame acceleration of explosions from methane-air mixtures is instructive. When the build-up of a flammable gas, such as methane, reaches a certain concentration range, a fire or explosion can be ignited by an ignition source, such as a spark or flame.<sup>98</sup> Mixtures of combustible fuels and air will burn only if the fuel concentration lies within well-defined lower and upper bounds, referred to as *explosion limits*.<sup>99</sup> The minimum

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95. *In re Massey*, 883 F. Supp. 2d at 626.

96. J. DAVITT MCATEER ET AL., UPPER BIG BRANCH: THE APRIL 5, 2010, EXPLOSION: A FAILURE OF BASIC COAL MINE SAFETY PRACTICES 67 (2011); Sazal Kundu et al., *A Review on Understanding Explosions from Methane-Air Mixture*, 40 J. LOSS PREVENTION PROCESS INDUS. 507, 509 (2016) (noting that methane gas that becomes trapped in the coal matrix during the coal formation process is released when the coal is mined. The released methane gas accumulates in the mine and becomes a potential explosion hazard (citing Pramod Thakur, *Coal Seam Degasification*, in HANDBOOK FOR METHANE CONTROL IN MINING 77 (Fred Kissell ed., 2006)); Charles N. Stickeler, *A Deadly Way of Doing Business: A Case Study of Corporate Crime in the Coal Mining Industry* 7 (2012) (Master's Thesis, University of South Florida) (on file with Digital Commons, University of South Florida) ("[T]he footprint left behind in the Upper Big Branch Mine tells . . . the story of an explosion that started with the ignition of a small amount of methane gas which was then fueled by coal dust that had been allowed to build up for miles throughout the mine.").

97. MCATEER ET AL., *supra* note 96, at 76–84, 97–98; *see also In re Massey*, 883 F. Supp. 2d. at 626.

98. Kundu et al., *supra* note 96, at 509 (“[A] methane concentration of ~9.5% in air is the most explosive methane-air mixture. While any methane concentration within the flammability range has the potential to explode in the presence of an ignition source, a methane concentration of ~9.5% in air can produce the most damaging explosion.”).

99. *See* F. Van den Schoor et al., *Calculation of the Upper Explosion Limit of Methane-Air and Propane-Air Mixtures at Elevated Pressures and Temperatures*, in PROCEEDINGS OF THE 5TH INTERNATIONAL SEMINAR ON FIRE AND EXPLOSIVE HAZARDS 227, 227–28 (2007) (discussing what explosion limits are and how to calculate them).

concentration of a particular fuel necessary to support its combustion in air is defined as its Lower Explosive Limit (LEL).<sup>100</sup> The maximum concentration of a fuel that will burn in air is defined as the Upper Explosive Limit (UEL).<sup>101</sup> Below the LEL the mixture is too lean to burn and above the UEL the mixture is too rich to burn. The range between the LEL and UEL is known as the *explosive range* for that particular fuel.<sup>102</sup>

Explosive limits vary with each combustible gas.<sup>103</sup> The explosive limits also vary with temperature and air pressure.<sup>104</sup> For methane, the LEL is around five percent, and the UEL is nearly sixteen percent for gas at twenty degrees Celsius and air at atmospheric pressure.<sup>105</sup> At higher temperatures, the UEL value for methane increases, while the LEL decreases.<sup>106</sup>

Consider now the following hypothetical based on the facts of *Massey*. Suppose as in *Massey*, false and misleading statements and omissions by a company about the safety of its mining operations inflated the price of its common stock. An explosion of a combustible gas reveals the risks that the company had fraudulently concealed. The company's stock price declines and investors who had bought the company's stock at an inflated price suffer losses.

Subsequent to the accident, scientists estimate the explosive range of the gas based on the initial temperature of the gas and ambient air pressure at the time of the explosion. The scientists compare the concentration of the gas at the time of the explosion to the range estimates and discover that the actual concentration was more than twice the estimated UEL. According to scientific state of the art prior to the accident, an

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100. Kundu et al., *supra* note 96, at 508.

101. *Id.*

102. *Id.*; see also *Lower and Upper Explosive Limits for Flammable Gases and Vapors*, WERNER SÖLKEN, [https://www.wermac.org/safety/safety\\_what\\_is\\_lel\\_and\\_uel.html](https://www.wermac.org/safety/safety_what_is_lel_and_uel.html) (last visited Mar. 16, 2022) (“The minimum concentration of a particular combustible gas or vapor necessary to support its combustion in air is defined as the Lower Explosive Limit (LEL) for that gas. Below this level, the mixture is too ‘lean’ to burn. The maximum concentration of a gas or vapor that will burn in air is defined as the Upper Explosive Limit (UEL). Above this level, the mixture is too ‘rich’ to burn.”).

103. See Kundu et al., *supra* note 96; WERNER SÖLKEN, *supra* note 102.

104. Kundu et al., *supra* note 96, at 508.

105. *Id.* (“[T]he LEL of methane is  $4.6 \pm 0.3\%$  . . . while the UEL of methane is  $15.8 \pm 0.4\%$  when methane is ignited in air at 20 °C and 100 kPa (relates to ambient temperature and pressure).”).

106. *Id.* at 508–09.

explosion could not occur under those conditions. At a concentration in excess of twice the upper explosive limit, the gas and air mixture would be considered too rich to burn. This means that scientists could not, ex ante the accident, predict the explosion that revealed the defendant's fraud.

Investors in the company's common stock who suffered losses due to the fraud may file a claim under Rule 10b-5. To prevail on their claim, the plaintiffs must plead and prove the elements of a Rule 10b-5 action, including loss causation. The analysis of loss causation as a proximate causal relation presented in this Article has shown that there is no loss causation, hence no 10b-5 liability, if scientists cannot ex ante predict the disclosure event. Given the facts of the hypothetical, the defendant may therefore escape liability.

The proximate cause issue in the *Massey* hypothetical is analogous to that in *Wagon Mound No. 1*. In both cases the defendant's wrongdoing factually caused the plaintiff's harm, yet no proximate cause existed because the reasonable foresight doctrine had been violated. In both cases the plaintiff's harm was triggered by a fiery ignition that scientists could not predict, and in both cases the ignition was an essential element of the systematic relationship between the defendant's wrongdoing and the plaintiff's harm. In both cases, therefore, liability was appropriately cut off under the reasonable foresight doctrine of proximate causality.<sup>107</sup>

## VI. CONCLUSION

This Article analyzes the loss causation element of Rule 10b-5 as a proximate causal relation between an alleged violation of Rule 10b-5 and a plaintiff's economic loss. The analysis shows that loss causation does not exist, and the defendant therefore escapes liability, if scientists could not ex ante predict the disclosure event that revealed the fraud and reset the inflated market price. This conclusion holds even if the plaintiff had

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107. The hypothetical also bears analogies to *Doughty*. In *Doughty*, the type of harm (burning due to splashing) was foreseeable, yet the defendant escaped liability, because scientists could not predict the mechanism by which it occurred. *Doughty v. Turner Mfg. Co.* (1964) 1 QB 518 (U.K.). In the hypothetical, the type of harm (economic loss due to a corrective disclosure and coincident price decline) was foreseeable, yet the defendant escaped liability, because scientists could not predict the mechanism by which the corrective disclosure occurred.

satisfactorily pleaded and proven all other elements of a Rule 10b-5 action.

Events such as corporate disasters,<sup>108</sup> regulatory action and clinical trials in life sciences and pharmaceutical industries,<sup>109</sup> medical events,<sup>110</sup> and computer security breaches<sup>111</sup> frequently

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108. See, e.g., *Bricklayers & Masons Local Union No. 5 Ohio Pension Fund v. Transocean Ltd.*, 866 F. Supp. 2d 223, 245–46 (S.D.N.Y. 2012) (plaintiffs alleging that oil rig disaster resulting in stock price decline revealed company's inadequate maintenance and safety practices); *Langevoort*, *supra* note 3, at 967 (“Many securities fraud lawsuits follow corporate disasters of some sort or another, claiming that known risks were concealed prior to the crisis.”).

109. See, e.g., *In re Pfizer Inc. Sec. Litig.*, 936 F. Supp. 2d 252, 266–68 (S.D.N.Y. 2013), *vacated in part*, 819 F.3d 642 (2d Cir. 2016) (recognizing reports of adverse clinical studies as corrective disclosures for purposes of loss causation.); William O. Fisher, *Key Disclosure Issues for Life Sciences Companies: FDA Product Approval, Clinical Test Results, and Government Inspections*, 8 MICH. TELECOMM. & TECH. L. REV. 115, 116 (2002) (“What biotechnology companies disclose—and decide against disclosing—about [regulatory events and clinical testing matters] can influence the price of those companies’ stocks. These disclosure decisions, therefore, can have important securities law implications. Inaccurate statements—and, under some circumstances, decisions to keep information about regulatory and testing developments within the company rather than including it in a public statement—may lead to private lawsuits, Securities and Exchange Commission (“SEC”) enforcement actions, and even criminal prosecutions.”); MICHAEL E. CLARK, *PHARMACEUTICAL AND MEDICAL DEVICE LAW REGULATION OF RESEARCH, DEVELOPMENT, AND MARKETING* ch. 12.I. (2017) (“The life sciences industry encounters heightened securities fraud liability for several reasons—it is heavily regulated, highly profitable, and one in which a small fraction of new products will ultimately get approved for sale and marketing.”).

110. See, e.g., *In re Biogen Inc. Sec. Litig.*, 857 F.3d 34, 37 (1st Cir. 2017) (Rule 10b-5 plaintiffs alleged defendants had fraudulently failed to disclose repercussions of patient death on company’s sales); *In re Pfizer Inc. Sec. Litig.*, 819 F.3d 642 (2d Cir. 2016); Fisher, *supra* note 109, at 136.

111. Securities fraud class actions have been filed following cyber-attacks. See *Second Amended Class Action Complaint for Violation of the Federal Securities Laws*, *Sgarlata v. Paypal Holdings, Inc.*, 409 F. Supp. 3d 846 (N.D. Cal. 2019); *Second Amended Class Action Complaint for Violations of the Federal Securities Laws*, *In re Yahoo! Inc. Sec. Litig.*, No. 5:17-cv-00373-LHK, 2018 WL 1062111 (N.D. Cal. Feb. 2, 2018); *Class Action Complaint for Violation of the Federal Securities Laws*, *Brock v. Equifax Inc.*, No. 1:17-cv-04510 (S.D.N.Y. Sept. 15, 2017); *Amended Consolidated Class Action Complaint for Violations of the Federal Securities Laws*, *In re Heartland Payment Sys. Sec. Litig.*, No. 09-1043, 2009 WL 4798148 (D.N.J. Dec. 7, 2009), ECF No. 14; *Consolidated Second Amended Class Action Complaint for Violations of the Federal Securities Laws*, *In re Qudian Inc. Sec. Litig.*, No. 17-cv-9741, 2019 WL 4735376 (S.D.N.Y. Sept. 27, 2019), ECF No. 134; see also Alert Memorandum, Cleary Gottlieb Steen & Hamilton LLP, *Cyber Breaches: Lessons Learned from Shareholder Derivative and Securities Fraud Litigation* (2018) (located at <https://www.clearygottlieb.com/-/media/files/alert-memos-2018/cyber-breaches->

trigger securities fraud lawsuits claiming concealment of known risks in violation of a duty to disclose.<sup>112</sup> The disclosure event that reveals the risk in such a case may involve a novel scientific principle or technology, such as an unpredictable drug reaction<sup>113</sup> or a novel computer security threat.<sup>114</sup> The theory developed in this Article may be relevant in such cases if a court

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lessons-learned-from-shareholder-derivative-and-securities-fraud-litigation-pdf.pdf) (“While the future of cybersecurity derivative and securities litigation remains uncertain, there is reason to believe that the volume and success of such suits may be on the rise. With respect to shareholder derivative lawsuits, as cybersecurity issues become more ubiquitous, directors and officers will be increasingly on notice of data breach risks, and plaintiffs will more easily be able to argue that directors and officers should have been aware of the company’s susceptibility to a cyberattack and should have taken efforts to remedy the company’s vulnerabilities.”); Client Update, Davis Polk & Wardwell LLP, Securities Fraud Class Action Suits Following Cyber Breaches: The Trickle Before the Wave (Dec. 21, 2017) (located at <https://www.davispolk.com/insights/client-update/securities-fraud-class-action-suits-following-cyber-breaches-trickle-wave>) (“Large-scale data breaches can give rise to a host of legal problems for the breached entity, ranging from consumer class action litigation to congressional inquiries and state attorneys general investigations. Increasingly, issuers are also facing the specter of federal securities fraud litigation.”).

112. See David F. Boyle, *Mass Accident Class Actions*, 60 CALIF. L. REV. 1615 (1972); Langevoort, *supra* note 3, at 969 (“High-profile [corporate disaster] events . . . nearly always produce high-stakes litigation.” (citing Hillary A. Sale & Robert B. Thompson, *Market Intermediation, Publicness, and Securities Class Actions*, 93 WASH. U. L. REV. 487 (2015))).

113. See, e.g., Michael J. Rieder, *Mechanisms of Unpredictable Adverse Drug Reactions*, 11 DRUG SAFETY 196 (1994); Sandra R. Knowles et al., *Idiosyncratic Drug Reactions: The Reactive Metabolite Syndromes*, 356 LANCET 1587, 1587 (2000) (“Adverse drug reactions can be classified into type A, or predictable, reactions and type B, also known as unpredictable or idiosyncratic reactions.”); George A. Mocsary, *Statistically Insignificant Deaths: Disclosing Drug Harms to Investors (and Patients) Under SEC Rule 10b-5*, 82 GEO. WASH. L. REV. 111, 122–23 (2013).

114. See, e.g., Meiring de Villiers, *Enabling Technologies of Cyber Crime: Why Lawyers Need to Understand It*, 11 PITT. J. TECH. L. & POL’Y 1, 38–39 (2011) (“The rapid development of [computer] virus technology has introduced an unpredictable element into the behavior of viruses. New virus creations often have the explicit goal of making detection more difficult and expensive. Innovations with this goal in mind include stealth, polymorphic, and metamorphic viruses. Stealth viruses are designed to evade detection, and polymorphic and metamorphic viruses are programmed to change their nature and identity. Unpredictable aspects of virus technology may cause a negligence action to fail on proximate cause grounds. In a particular virus incident, an ex post obvious systematic relation may exist between a defendant’s wrongdoing and the harm caused by a novel virus. If, however, computer scientists could not ex ante predict this relation due to the novelty of the technology, the plaintiff’s case may fail under the Reasonable Ignorance doctrine.”).

accepted expert testimony that, due to the novelty of the science and technology involved, scientists could not ex ante predict the disclosure event.

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