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BARDY DIAGNOSTICS V. HILL-ROM: NEW LESSONS ON MATERIAL ADVERSE EFFECT CLAUSES

Robert T. Miller[*]

ABSTRACT:

In Bardy Diagnostics, Inc. v. Hill-Rom, Inc., the Delaware Court of Chancery once again had to apply a Material Adverse Effect clause to determine whether an acquirer was required to close an acquisition. The case develops the law of MAEs in several important ways. First, the agreement between the parties substituted for the customary MAE objects (e.g., the company's business, financial condition, and results of operations) a bespoke defined term. The court interpreted the definition of that term in a way that made it functionally equivalent to more customary MAE objects; then, consistent with an unacknowledged trend in Delaware law, the court ignored the MAE objects and inquired into the effect of the alleged MAE on the value of the company as reasonably understood in accordance with accepted principles of corporate finance. Second, in performing that inquiry, the court faced a situation in which, although the target's cashflows had decreased substantially, it was unclear whether they would soon rebound to historical levels. Although the court focused on whether the reduction in cashflows would be "durationally significant," this article argues that the question would better be framed in terms of how the event alleged to be a Material Adverse Effect affected a reasonable understanding of the probability distribution of the company's future cashflows and their present value. Third, and probably most important, the court's opinion expressly acknowledges and consistently applies a distinction between events and effects, that is, between a capitalized "Material Adverse Effect," which is an event that has or would reasonably be expected to have a material adverse effect on the target, and that material adverse effect itself, which is caused by the event. Unlike Akorn and KCake, Bardy thus makes clear that exceptions in MAE definitions apply to events, not the effects they cause. Finally, the opinion in Bardy makes important points about disproportionality exclusions in MAE definitions, including with respect to determining the control group against which adverse effects on the company should be measured and with respect to construing the "to the extent" language in such exclusions. While agreeing

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that the court's interpretation of the contract reflected the intentions of the parties, this article argues that the typical contract language, read literally, involves the same confusion of events and effects so common in discussions of MAE clauses and suggests that drafters should replace the typical language with language that more accurately reflects the intentions of the parties.

INTRODUCTION

In *Bardy Diagnostics, Inc. v. Hill-Rom, Inc.*,[1] the Delaware Court of Chancery (Vice Chancellor Slights) once again had to apply a "Material Adverse Effect" (MAE) clause to determine whether an acquirer was required to close an acquisition. As has almost always happened in the past, the court concluded that there had been no Material Adverse Effect within the meaning of the agreement between the parties.[2] The court thus granted the request of the target, Bardy Diagnostics, Inc. (Bardy), to specifically enforce the agreement and ordered the acquirer, Hill-Rom, Inc. (Hillrom), to close the transaction.[3] After initially saying it might appeal to the Delaware Supreme Court, Hillrom completed the merger on August 6.[4]

The opinion in *Bardy* develops the law of MAEs in several significant ways. First, *Bardy* contains important lessons about MAE Objects, the aspects of the company that the definition of "Material Adverse Effect" requires to be materially adversely affected. These objects are typically limited to the company's business, financial condition, and results of operations, but the agreement between Hillrom and Bardy substituted for these customary MAE Objects a bespoke defined term "Business." The court's treatment of this individually-negotiated language in place of the standard, boilerplate language is highly instructive: having considered the language in the definition of the term, the court construed it in a way that made it functionally equivalent to the boilerplate language. This confirms a long-unacknowledged trend in Delaware law of essentially ignoring the detailed list of MAE Objects and merely inquiring about the adverse effect

1. Bardy Diagnostics, Inc. v. Hill-Rom, Inc., No. 2021-0175, 2021 WL 2886188 (Del. Ch. July 9, 2021).

2. Prior to *Bardy*, the Court of Chancery had applied Material Adverse Effect clauses in *In re* IBP, Inc. S'holders Litig., 789 A.2d 14 (Del. Ch. 2001), Frontier Oil Corp. v. Holly Corp., No. 20502, 2005 WL 1039027 (Del. Ch. Apr. 29, 2005), Hexion Specialty Chems. v. Huntsman Corp., 965 A.2d 715 (Del. Ch. 2008), Mrs. Fields Brand, Inc. v. Interbake Foods LLC, No. 12202, 2017 WL 2729860 (Del. Ch. June 26, 2017), Akorn, Inc. v. Fresenius Kabi, AG, No. 2018-0300, 2018 WL 4719347 (Del. Ch. Oct. 1, 2018), *aff'd* 198 A.3d 724 (Del. 2018), AB Stable VIII LLC v. Mirae Asset Cap. Co., No. 2020-0310, 2020 WL 7024929 (Del. Ch. Nov. 30, 2020), *aff'd* 268 A.3d 198 (Del. 2021), and Snow Phipps Grp., LLC v. KCake Acquisition, Inc., No. 2020-0282, 2021 WL 1714202 (Del. Ch. Apr. 30, 2021). Only in *Akorn* did the court find that the target had suffered a Material Adverse Effect within the meaning of the merger agreement.

3. *Bardy*, 2021 WL 2886188, at *3.

4. Hill-Rom Holdings, Inc. Form 8-K (August 6, 2021).

of the alleged MAE on *the value of the company* as reasonably understood in accordance with accepted principles of corporate finance.

Second, the court in *Bardy* faced a situation in which, although the target's cashflows had declined sharply after the agreement was signed, there was reason to believe that they might return to historical levels, at least in the medium term—a fact pattern in some ways similar to that in the seminal MAE case, *In re IBP Shareholders Litigation*.[5] In that case, of course, then-Vice Chancellor Strine articulated Delaware's doctrine that an (uncapitalized, not further-defined) material adverse effect must "substantially threaten the overall earnings potential of the target in a durationally-significant manner."[6] Applying this doctrine, some later cases have considered *how long a period* is required for a reduction in earnings to be "durationally significant," with the court in *Hexion* stating that, in general, a material adverse effect must be "consequential to the company's long-term earnings power over a commercially reasonable period, which one would expect to be measured in years rather than months."[7] By contrast, *Bardy* concerned not so much the period during which the target's cashflows would be depressed, but the *probability* that they would rebound, it being assumed that, if they rebounded at all, they would rebound relatively quickly to historical levels and then stay at such levels indefinitely. Although the court thus focused on whether the reduction in cashflows would be "durationally significant," this article argues that the question would better be framed in terms of how the actual events of the case affected a reasonable understanding of the probability distribution of the company's future cashflows and their present value. In the end, what matters is not how sharply a company's expected cashflows have been reduced nor how long they are expected to be reduced, but the present value of all expected cashflows, which always involves some probability distribution of such cashflows.

Third, and perhaps most important, the opinion in *Bardy* significantly advances the law concerning how exceptions in MAE definitions will be applied. Typically, such definitions define the capitalized term "Material Adverse Effect" to refer to an event, fact, circumstance, etc. (for short, an "event") that has, or would reasonably be expected to have, an (uncapitalized) material adverse effect on the target. Such definitions thus

5. 789 A.2d 14 (Del. Ch. 2001).

6. *Id.* at 68. As explained more fully below, the capitalized term "Material Adverse Effect" is typically defined to mean an event that causes—i.e., "has or would reasonably be expected to have"—an uncapitalized "material adverse effect" on the target. Material Adverse Effects are thus not material adverse effects but events that cause such effects. *See* Robert T. Miller, *Pandemic Risk and the Interpretation of Exceptions in MAE Clauses*, 46 J. CORP. L. 681, 688 (2021) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3826378 [hereinafter Miller, *Pandemic Risk*]; Robert T. Miller, *What do Exceptions in MAE Definitions Except?*, BUS. L. TODAY (May 20, 2021) https://businesslawtoday.org/2021/05/what-do-exceptions-in-mae-definitions-except/ [hereinafter Miller, *What do Exceptions in MAE Definitions Except?*].

7. *Hexion*, 965 A.2d at 738.

refer to two separate realities that are related as cause to effect. As I have argued in two recent articles,[8] in applying exceptions in MAE definitions (which, by their plain terms except certain *events* from the definition, not the *effects* of such events), the Court of Chancery has in dicta sometimes confused the events having material adverse effects on the company and the material adverse effects themselves. *Bardy* cites one of these articles to expressly acknowledge the distinction between events and effects and consistently applies the distinction throughout the opinion. This suggests that the Court of Chancery will observe the distinction in future cases.

Finally, the court in *Bardy* interprets a disproportionality exclusion qualifying exceptions in the MAE definition, thus providing guidance on two important issues related to such exclusions: first, which companies will form the control group against which the proportionality of the adverse effect on the target is measured, and second, what it means to say that an otherwise excepted event will not be excepted "to the extent" that it has a disproportionate effect on the target. While agreeing that the court's interpretation of the relevant contractual language reflects the intentions of the parties on this issue, this article also argues that the language, read literally, involves the same confusion of events and effects so common in discussions of MAE clauses, and so suggests that drafters should replace the typical language with language that more accurately reflects the intentions of the parties.

I. BACKGROUND

Hillrom, a publicly traded medical technology company, agreed to acquire Bardy, a startup company that sold a single product: a long-term ambulatory heart-monitoring device called the Carnation Ambulatory Monitor (CAM) patch. The CAM patch monitors the wearer's heart and uploads data to the cloud. The data is interpreted by electrocardiogram technicians in Bardy's independent diagnostic testing facilities, who then prepare a report for the patient's physician. Bardy's CAM patch is widely regarded as best-in-class technology and has fueled the company's impressive growth in recent years. Like most companies at a similar stage of development, Bardy had concentrated on achieving rapid growth and was not yet profitable. Hillrom understood this and expected that if it acquired Bardy, Bardy would continue to invest in growth and would likely not be profitable for a few years.[9]

Bardy derived about 29% of its revenues from servicing Medicare patients.[10] Medicare sets its rates for reimbursement of medical devices and

8. Miller, *Pandemic Risk*, *supra* note 6, at 711–12; Miller, *What do Exceptions in MAE Definitions Except?*, *supra* note 6.

9. *Bardy*, 2021 WL 2886188, at *7.

10. *Id.* at *39.

related services through the use of Current Procedural Technology (CPT) codes. Essentially, the Center for Medicare & Medicaid Services (CMS), an arm of the federal Department of Health and Human Services, assigns a CPT code to a medical device and determines how much Medicare will reimburse for devices with which the code is associated. When a new device is first developed and introduced, however, CMS commonly assigns Temporary Category III CPT codes to the new device and then delegates pricing authority to local Medicare Administrative Contractors (MACs)—private entities operating within designated geographical regions and vested with the authority to set pricing for certain temporary CPT codes. Prices set by MACs have the same legal force as those set by CMS itself. Since Bardy operates in Texas and New Jersey, the reimbursement rates for CPT codes related to its CAM patches have always been set by Novitas Solutions, Inc. (Novitas), a MAC with authority to set prices in those states. For years, Novitas had consistently set prices for the device in both states at about $365 per patch, even though other MACs with authority over different regions set prices significantly lower in their states.

When the parties began negotiating an agreement, they both expected that CMS would take over pricing for the CAM patch and set a price considerably higher than the $365 per patch price set by Novitas, perhaps a price as high as $465 per patch.[11] In fact, however, while the parties were still negotiating the transaction, CMS elected not to set any rate for the CAM patch but to leave the issue with Novitas. At that point, although the parties expected that Novitas would price the patches much as it always had in the past, there was a risk that Novitas could set a lower price, and at least one consultant warned Hillrom that, in his opinion, this was likely, because the Novitas price was considerably higher than that set by other MACs with authority over other regions.[12] In part to deal with such risks, Hillrom reduced the initial purchase price it was offering from $450 million to $375 million and proposed various earnout provisions based on Bardy's post-closing revenues.[13] Such provisions, of course, shifted some revenue risk to the sellers. Bardy agreed to these modifications of the deal terms, and the parties entered into a merger agreement in early January of 2021. As discussed more fully below, the agreement contained a largely standard MAE clause.

Within weeks of the agreement being signed, Novitas announced a new rate for the CAM patch: $42.68 per patch for Texas and $49.70 per patch for New Jersey. Hillrom, Bardy, and all other market participants were stunned at this approximately 86% reduction, so much so that some of the individuals involved thought the announcement must have been made in error. Assuming that Novitas had made an error of some sort, Bardy (with Hillrom's support),

11. *Id.* at *31.
12. *Id.* at *39.
13. *Id.* at *11.

along with other affected firms in the industry, began efforts to convince Novitas to increase rates for the relevant CPT codes.[14]

While these efforts were still ongoing, in February of 2021, three days before the merger was scheduled to close, Hillrom informed Bardy that it believed that a Material Adverse Effect (as defined in the merger agreement) had occurred, thereby relieving Hillrom of its obligation to complete the transaction. Litigation quickly followed.

About a month later, Novitas did increase the reimbursement rate for Bardy's CAM patches, but only to about $133 per patch for both Texas and New Jersey.[15] Even still, the reimbursement rate was down over 63% from the pre-deal rate of $365 per patch.[16] Hillrom's position was that, even with this subsequent increase, the decline in reimbursement rates relative to the pre-deal level still constituted a Material Adverse Effect.

II. THE BASE DEFINITION: MAE OBJECTS AND AN UNCAPITALIZED "MATERIAL ADVERSE EFFECT"

The primary issue in the case, of course, was whether Novitas's reduction in the reimbursement rates amounted to a Material Adverse Effect within the meaning of the merger agreement. As the court observed,[17] the definition of "Material Adverse Effect" in the merger agreement followed the usual pattern in that it consisted of three main clauses: a *base definition*, followed by certain *exceptions*, further followed by a *disproportionality exclusion* that qualifies some of the exceptions. There were two issues related to the base definition: the meaning of the unusual defined term "Business" used in place of the customary list of MAE Objects, and the now-conventional inquiry as to whether the future cashflows of the company had been reduced enough to produce an (uncapitalized) material adverse effect.

A. THE UNUSUAL MAE OBJECT

The base definition provided that

14. *Id.* at *2.

15. *Id.* at *3; *but see id.* at *15 ("Novitas announced revised reimbursement rates in New Jersey of $120.49 and $133.47, and in Texas of $103.44 and $114.57").

16. *Id.* at *3.

17. *See id.* at *13. In particular, the court says, "[a]s is common, the Agreement defines a 'Company Material Adverse Event' in three parts. The 'definition starts with a general statement of what constitutes an MAE,' then 'carves out certain types of events that otherwise could give rise to an MAE,' and then creates 'exceptions to the carve-outs.'" *Id.* at *13 (quoting Akorn, Inc. v. Fresenius Kabi, AG, No. 2018-0300, 2018 WL 4719347, at *51 (Del. Ch. Oct. 1, 2018), *aff'd*, 198 A.3d 724 (Del. 2018). The analysis of MAE definitions into these three parts, adopted by the Court of Chancery in *Akorn*, derives from Robert T. Miller, *The Economics of Deal Risk: Allocating Risk Through MAC Clauses in Business Combination Agreements*, 50 WM. & MARY L. REV. 2007, 2045–50 (2009) [hereinafter Miller, *Deal Risk*], which, along with Robert T. Miller, *Material Adverse Effect Clauses and the COVID-19 Pandemic*, 2 (Univ. Iowa Coll. L. Legal Stud. Rsch. Paper, No. 2020-21, 2020) [hereinafter Miller, *COVID-19*], provides the terminology ("base definition," "MAE exceptions," and "disproportionality exclusions") used here.

> ”Company Material Adverse Effect” means any fact, event, circumstance, change, effect or condition that, individually or in the aggregate, has had, or would reasonably be expected to have, a material adverse effect on … the Business of [Bardy and its one subsidiary], taken as a whole ….[18]

As noted above, this definition eschews customary MAE Objects such as the company’s business, financial condition, and results of operations in favor of the bespoke defined term “Business,” which the agreement defined as:

> the design, development, manufacture, production, assembly, marketing, promotion, distribution, sale, clinical use, and other commercialization activities involving certain currently-marketed and in-development cardiac digital health, diagnostic, data management and remote patient monitoring devices (including ambulatory cardiac monitors), technologies and services (including independent diagnostic testing, interpretation and cardiac monitoring services).[19]

Bardy argued that, by limiting the MAE Objects to Bardy’s “Business” thus defined, the parties intended that only those events that affected the nature of Bardy’s operations in the sense of the actions it undertook in performing those operations could be Material Adverse Effects within the meaning of the definition. In particular, since neither “financial condition,” “results of operations,” nor any similar terms related to the financial performance of the company were listed as MAE Objects, a drop in revenues, earnings, or earnings before interest, taxes, depreciation, and amortization (EBITDA) would *not* count as a Material Adverse Effect.

Vice Chancellor Slights had no difficulty disposing of this argument. Since the defined term “Business” included “commercialization activities” related to the relevant products, and since dictionary definitions of “commercialization” refer to managing a business for profit, the court concluded that the change in reimbursement rates “affects the Company’s ‘Business’ under a plain reading of that term’s definition.”[20]

This reading is certainly right, not only for the textual reasons Vice Chancellor Slights gives, but also because accepting Bardy’s argument here would result in a wildly implausible interpretation of the agreement. What a reasonable acquirer cares about most is the value of the company it is

18. *Bardy*, 2021 WL 2886188, at *13.
19. *Id.*
20. *Id.* at *24.

acquiring,[21] that is, the present value of its future free cashflows.[22] That makes the company's financial performance of paramount importance. Bardy's argument would sever the link between the term "Material Adverse Effect" and the value of the company; it would exclude from the meaning of the term the one thing that really counts from the acquirer's point of view. It passes credulity that a sophisticated acquirer could have agreed to such a provision.

More generally, however, the court's holding here shows the surprising irrelevance of the exact list of MAE Objects. As I have previously noted,[23] the MAE Objects are typically listed disjunctively: a Material Adverse Effect requires a material adverse effect on the company *or* its business *or* its financial condition *or* its results of operations, and so on. This seems to imply that there could be a material adverse effect on, say, the company's business but not on its results of operations, and in applying the definition we would have to inquire as to exactly which MAE Object or MAE Objects were adversely affected. Such inquiries, however, would often be implausible, for many common MAE Objects are so closely related to others as to be practically inseparable: it seems impossible, for instance, that there could be a material adverse effect on the company's results of operations but not on its financial condition,[24] a fact the *Bardy* court expressly notes.[25] Perhaps in part for such reasons, the Delaware courts have never applied MAE clauses by inquiring into whether there has been a material adverse effect on any particular MAE Object. Rather, in every MAE case that reached the issue, the court has asked whether the "company" had suffered a material adverse effect and has understood that question in the sense of whether the earnings power of the company—i.e., its future cashflows (or, more precisely, the present value of those cashflows)—had been substantially reduced.[26] As

21. A reasonable strategic acquirer will often also care about synergies, but it is well established in Delaware law that an (uncapitalized) material adverse effect is an effect on the value of the target on a standalone basis, not the value of the target to the acquirer, whether because of potential synergies or for any other reason. *See Akorn*, 2018 WL 4719347, at *56 (stating that "[t]he plain language of the definition of an MAE makes clear that any MAE must be evaluated on a standalone basis," not using "a synergistic approach," and "[e]very prior decision [in MAE cases] has looked at changes in value relative to the seller as a standalone company.").

22. *See generally*, Robert T. Miller, *A New Theory of Material Adverse Effects*, 76 BUS. LAW. 749 (2021) [hereinafter Miller, *New Theory*].

23. Miller, *New Theory*, *supra* note 22, at 761–62; Miller, *COVID-19*, *supra* note 17, at 4.

24. Robert T. Miller, *Canceling the Deal: Two Models of Material Adverse Change Clauses in Business Combination Agreements*, 19 CARDOZO L. REV. 99, 116-17 (2009); Miller, *New Theory*, *supra* note 22, at 761–62.

25. *Bardy*, 2021 WL 2886188, at *24.

26. *See In re* IBP S'holders Litig., 789 A.2d 14, 68 (Del. Ch. 2001); Frontier Oil Corp. v. Holly Corp., No. 20502, 2005 WL 1039027, at *34 (Del. Ch. Apr. 29, 2005); Hexion Specialty Chems. v. Huntsman Corp., 965 A.2d 715, 738–40 (2008); Mrs. Fields Brand, Inc. v. Interbake Foods LLC, No. 12202, 2017 WL 2729860, at *22 (Del. Ch. June 26, 2017); *Akorn*, 2018 WL 4719347, at *53; Snow Phipps Grp., LLC v. KCake Acquisition, Inc., No. 2020-0282, 2021 WL 1714202, at *30 (Del. Ch. Apr. 30, 2021).

discussed further below, this is precisely what Vice Chancellor Slights does in *Bardy* as well.[27] And rightly so, for what matters is the value of the company to a reasonable acquirer, and reasonable acquirers value companies on the basis of the present value of their future cashflows.[28] This suggests, however, that the exact list of MAE Objects in typical definitions of "Material Adverse Effect" is of little importance; it would suffice to refer to a material adverse effect "on the company."[29]

In any event, *Bardy* makes clear that unusual defined terms in place of the customary list of MAE Objects do nothing but invite confusion and specious, ex post arguments about their intended meanings. Drafters would do well to avoid such innovations unless the parties actually intend some quite non-standard meaning. In that case, drafters would likely do better to avoid both the capitalized term "Material Adverse Effect" and the uncapitalized term "material adverse effect." They should introduce new terms for their unusual new meanings, lest the now substantial case law on MAEs come to control the interpretation of the contract to produce results the parties did not intend.

B. Whether the Reduction in Rates Had an Uncapitalized "material adverse effect" on the Company

The court's interpretation of the unusual MAE Objects in the definition in the agreement cleared the way for the usual inquiry into the effect on the value of the company of the purported Material Adverse Effect: in this case, Novitas's reduction in reimbursement rates for Bardy's CAM patches. Vice Chancellor Slights begins this inquiry by quoting Vice Chancellor Laster in *Akorn*, who was, in turn, quoting Vice Chancellor Lamb in *Hexion*: "To assess whether a financial decline has had or would reasonably be expected to have a sufficiently material effect, this court will look to 'whether there has been an adverse change in the target's business that is consequential to the company's long-term earnings power over a commercially reasonable period.'"[30] This language, of course, derives from and reformulates then-Vice Chancellor Strine's holding in *IBP* that a material adverse effect must "substantially threaten the overall earnings potential of the target in a durationally-significant manner."[31]

In prior MAE cases, courts have applied this doctrine by determining one or more measures of the company's earnings power (with EBITDA usually

27. *Bardy*, 2021 WL 2886188, at *25–26.
28. *See generally*, Miller, *New Theory*, *supra* note 22.
29. *Id.* at 761–62; Miller, *COVID-19*, *supra* note 17, at 4.
30. *Bardy*, 2021 WL 2886188, at *25 (quoting *Akorn*, 2018 WL 4719347, at *52 (quoting *Hexion*, 965 A.2d at 738)) (cleaned up).
31. *In re IBP*, 789 A.2d at 68.

being the most important measure)[32] and then comparing the earnings of the company thus measured across various fiscal periods. That is, courts have compared results for historical periods prior to signing with results for historical periods completed post-signing, projections made pre-signing for periods completed post-signing with the actual results for such periods, and projections made pre-signing for still future periods with projections made post-signing for the same periods.[33] The court in *Bardy*, however, followed a rather different procedure. It did not consider the issue of how to measure the company's earnings power, and it did not compare financial results for any period with those of any other period. Rather, the court reasoned as follows:

> Distilled to *prima facie* elements, in order to prevail on its claim that it was excused from closing by the occurrence of an MAE, Hillrom was obliged to prove by a preponderance of the evidence that (1) the … effect [of the reduction in rates] on Bardy's "earnings potential," at the time Hillrom invoked the MAE clause, would "reasonably be expected" to constitute an MAE; and (2) the [reduction in rates], at the time Hillrom invoked the MAE clause, would "reasonably be expected" to endure for a "durationally significant" period. Given that the MAE in this case is a government-set price, Hillrom's burden on the second element was to prove that it *reasonably* expected neither Novitas nor CMS would readjust Medicare reimbursement rates for the relevant CPT codes any time soon…. I will assume that Hillrom has proven the [reduction in rates] would reasonably be expected to have a material adverse effect on Bardy at the time it refused to close the Merger. Even with that ground ceded, Hillrom failed credibly to advance its claim of durational significance because the preponderance of the evidence does not support the contention that neither Novitas nor CMS will increase the [rate] within a commercially reasonable period.[34]

32. *See id.*, at 67 (using EBIT and EPS); *Hexion*, 965 A.2d at 742–45 (EBITDA); *Akorn*, 2018 WL 4719347, at *62 (EBITDA); *See generally*, Miller, *New Theory*, *supra* note 22, at 765–66 (discussing the problem of which measures of cashflow should be used to measure earnings power).

33. *See In re IBP*, 789 A.2d at 71; *Hexion*, 965 A.2d at 742; *Akorn*, 2018 WL 4719347, at *53–54; Snow Phipps Grp., LLC v. KCake Acquisition, Inc., No. 2020-0282, 2021 WL 1714202, at *33 (Del. Ch. Apr. 30, 2021). *See generally*, Miller, *New Theory*, *supra* note 22, at 767–68 (discussing the problem of selecting which fiscal periods to compare with which). In *New Theory*, I argue that this procedure, although clearly aimed at the right issue (the value of the target, reasonably understood), is undisciplined and chaotic and ought to be replaced by comparing a range of values for the company as it reasonably appeared pre-signing with a range of values for the company as it reasonably appeared at the time of the alleged Material Adverse Effect, in each case valuing the company in accordance with accepted principles of corporate finance (as modified by requirements of the MAE definition). *See* Miller, *New Theory*, *supra* note 22, at 754–55.

34. *Bardy*, 2021 WL 2886188, at *26. I have argued in Miler, *What Do Exceptions in MAE Definitions Except?*, *supra* note 6, at 2 and in Miller, *Pandemic Risk*, *supra* note 6, at 701, that use of the three-letter abbreviation "MAE" invites confusion between (capitalized) Material Adverse Effects, which are events causing (uncapitalized) material adverse effects, and these latter effects themselves. As discussed below, the court in *Bardy* cites the former article and expressly acknowledges the distinction between events and the effects they cause, *Bardy* 2021 WL 2886188, at *25 n.235 (citing Miller, *What Do Exceptions in MAE Definitions Except?* as "cautioning courts to interpret MAE exceptions by reference to the actual MAE event, as opposed to the knock-on

As an initial matter, this seems to me to involve a confusion. It is quite impossible, in my view, that Hillrom could, as the court assumes *arguendo* it did, prove that "the [reduced rates] would reasonably be expected to have a material adverse effect on Bardy at the time [Hillrom] refused to close the Merger," and yet not prevail on the key issue of an existence of an (uncapitalized) material adverse effect. If, at the time Hillrom refused to close, there had occurred an event (not falling into an exception in the definition) that would reasonably be expected to have a material adverse effect on Bardy, then there would have occurred a (capitalized) Material Adverse Effect within the meaning of the agreement,[35] and under the plain terms of the agreement, Hillrom would then be entitled to terminate the agreement.[36]

Indeed, this comes out clearly later in the opinion. For, at the end of its analysis, the court concludes that "Hillrom has failed to carry its burden to prove that an event had or would reasonably be expected to have an effect sufficiently material and adverse to qualify as an MAE at the time it refused to close the Merger."[37] How can the court assume *arguendo* that "Hillrom has proven the [reduction in rates] would reasonably be expected to have a material adverse effect on Bardy at the time it refused to close the Merger," and then conclude that Hillrom failed to prove precisely what the court assumed it did prove? Clearly, something has gone wrong here.

effects of those events"), and then scrupulously observes the distinction throughout its analysis. The passage quoted above, however, shows how easily the abbreviation "MAE" can lead to conflating Material Adverse Effects (i.e., events) and material adverse effects (i.e., the effects of such events). For, the passage uses the abbreviation four times, and while in its the first, second, and fourth uses (Hillrom "was excused from closing by the occurrence of an MAE;" Hillrom "invoked the MAE clause;" and "the MAE in this case is a government-set price"), the term refers to an event that was a (capitalized) Material Adverse Effect, in its fourth use ("the effect [of the rate reduction] would reasonably be expected to constitute an MAE"), it refers to an (uncapitalized) material adverse effect. The quoted passage is hardly unique in this respect; the problem is pervasive, probably including in this article.

35. Unless, that is, the event fell within an exception in the definition of "Material Adverse Effect." On that issue, see Section C.1 below.

36. In Section 2.7 of the merger agreement, Bardy represented and warranted that, since December 31, 2019, there had been no Company Material Adverse Effect. Section 5.1(a) of the agreement conditioned Hillrom's obligation to close the merger on, among other things, Bardy's representation in Section 2.7 being true as of the closing date as if made again on the closing date (more precisely, it conditioned that obligation on that representation, read without regard to the term "Company Material Adverse Effect" to be true except as would not have a Company Material Adverse Effect, which comes to the same thing). Section 6.1(b) of the agreement provided that Hillrom had the right to terminate the agreement if there was a material breach of any of Bardy's representations or warranties "such that the condition[] set forth in Section 5.1(a) … [is] incapable of being satisfied and, if such breach is curable, such breach is not cured prior to the expiration of twenty (20) days following [Bardy's] receipt of written notice thereof from" Hillrom. Hence, if the rate reduction had a material adverse effect on Bardy (as the court assumed *arguendo* it did), then—at least after a twenty-day cure period, during which the rates, of course, did not change—Hillrom was entitled to terminate the agreement under its plain terms (again, assuming that the rate reduction did not fall into an exception in the MAE definition).

37. *Bardy*, 2021 WL 2886188, at *33.

The problem is that the court understands its *arguendo* assumption—that Bardy had suffered an (uncapitalized) material adverse effect at the time Hillrom refused to close—as leaving open the possibility that Bardy's cashflows could rebound within a commercially reasonable time, with the result that there was no material adverse effect after all. This is not coherent. To say that the company had suffered a material adverse effect as of a certain date is to say that, as of that date, the value of the company had been materially reduced, and since the value of the company is the present value of its future cashflows, to say that the value of the company had been reduced is to say *something* about its future cashflows. It is simply not possible to say that the value of the company has been reduced but leave open the question of what its future cashflows may be. It *is* possible to assume that current or short-term cashflows are reduced, leaving open the question of whether long-term cashflows are reduced as well; but that also leaves open the question of whether the company has suffered a material adverse effect, because a reduction of only current or short-term cashflows is not (at least normally) a material adverse effect since it does not (normally) reduce materially the value of the company.

What the court had in mind but expressed somewhat poorly is, I think, the following: the court wanted to assume *arguendo* that the reduction in rates, *if it persisted long enough*, would be a material adverse effect. In other words, in valuing a company, a reduction in cashflows implies a reduction in value, but there are two dimensions to a reduction in cashflows: the percent reduction (e.g., a 50% reduction in EBITDA reduces the value more than a 5% reduction) and how long the reduction persists (a reduction that persists indefinitely reduces the value more than one lasting only a quarter). The court was assuming *arguendo* that the percent reduction in Bardy's cashflows was large enough that, *if it persisted long enough*, there would be a material adverse effect.[38]

38. There are other passages in the opinion that seem to involve the same confusion. For instance, the court later says that "the party invoking the MAE clause must prove by a preponderance of the evidence that the target suffered a material adverse effect for a commercially reasonable period." *Id.* at *27. In my view, this is not the law, and it makes no economic sense. To invoke the MAE clause, a party must show that an event has occurred that would reasonably be expected to have a material adverse effect on the target—that is, there has been an event that materially reduces the value of the target, as reasonably understood in accordance with accepted principles of corporate finance, as of the time the acquirer invokes the MAE clause and terminates the agreement. In many cases, the reason that the value of the target will have been materially reduced is that its future cashflows are reasonably expected to be substantially reduced for an indefinitely long time into the future. This is the idea behind all talk of "durational significance" and "commercially reasonable periods." If the target's cashflows are reduced only for the current quarter, or only for this quarter and the next quarter, then the resulting reduction in the value of the company would almost certainly not be material. It would be a "blip" in earnings of the kind the court in *IBP* said would not be a material adverse effect. *In re IBP*, 789 A.2d at 67. But there are other ways a company's value can be reduced, and so there are other ways a company can suffer a material adverse effect. For instance, suppose that, after signing, the company suddenly incurs a one-time liability equal to five-times the deal price that becomes payable only five years in the

In this way, the court sought to avoid the difficult issues of determining which financial metrics to use to measure the company's earnings power, which fiscal periods to compare with which, and whether the results of such comparisons showed a diminution in earnings power large enough to be material. Such an approach may make good sense in terms of judicial economy. If (as the court ultimately found) the evidence showed that the reduction in the target's cashflows would be of short duration, it would seem that the court could then conclude, without more, that the company had not suffered a material adverse effect.

Of course, this approach made everything turn on the likely future actions of the regulatory authorities that set the reimbursement rates for Bardy's CAM patches. The court subdivided this issue into two questions: (a) when, if ever, the CMS or Novitas would likely revisit the rates, and (b) when and if either did so, whether the relevant authority would increase the rates to near or above historical levels. Naturally, the only evidence on these forward-looking questions was expert testimony; predictably, the evidence from the parties' experts was diametrically opposed. Hillrom's expert testified that Novitas was unlikely to revise the rates within the foreseeable future and CMS was unlikely to intervene, while Bardy's expert testified that CMS would likely intervene and set rates for CAM patches either in 2021 or, at the latest, in 2023, and, failing that, Novitas itself would likely adjust the rates within two years.[39] For various reasons, including their respective backgrounds and experience, and because Bardy's expert had correctly predicted Novitas's relatively small increase in rates after the initial decrease while Hillrom's had asserted no such thing would occur, the court found Bardy's expert more credible.[40] It concluded that "the preponderance of the evidence does not support Hillrom's conclusion that neither CMS nor Novitas will revisit [the relevant rates] within a commercially reasonable

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future. Whether measured by earnings, EBITDA or any other metric, the company's cashflows for the next five years (a "commercially reasonable period") are completely unaffected. Nevertheless, the value of the company is obviously materially reduced (indeed, the company would likely be insolvent). Compare *Frontier Oil*, where after signing it transpired that the target might be liable for a large toxic tort allegedly committed by a subsidiary decades in the past. In that case, Vice Chancellor Lamb compared the expected liability to the enterprise value of the company, and finding it small in relation thereto, concluded that there had been no material adverse effect on the company. Frontier Oil Corp. v. Holly Corp., No. 20502, 2005 WL 1039027, at *37 (Del. Ch. Apr. 29, 2005). If the liability had been much larger, however, the result would presumably have been the opposite. When the court says in *Bardy* that it is an "element" of the acquirer's claim that the reduction in the target's cashflows persists for a certain period of time, *Bardy*, 2021 WL 2886188, at *26, this is not literally correct. All that really matters is whether there has been an event that materially reduces the value of the company. Usually, that would happen because expected cashflows have been substantially reduced for a long period of time, but as the example above shows, the value of a company can be reduced in other ways as well. *See generally*, Miller, *New Theory*, *supra* note 22.

39. *Bardy*, 2021 WL 2886188, at *28–30.

40. *Id.* at *30.

time,"[41] and thus "Hillrom has failed to prove that it reasonably would have expected that CMS would not meaningfully increase the current Medicare reimbursement rates" for Bardy's CAM patches.[42]

But even accepting the court's conclusions regarding the cogency of the expert evidence, I doubt that this is the correct analysis. In my view, focusing on the binary issue of whether or not CMS or Novitas was likely in the near term to return the reimbursement rate to its historical levels obscures the key issue in this case. To see why, we must return to first principles. The crucial question is whether, in the totality of the circumstances, the value of the company as reasonably understood in accordance with accepted principles of corporate finance has been reduced in a way that would be material to a reasonable acquirer. At the time the parties entered into the agreement, a reasonable valuation of Bardy would have been based in part on a probability distribution of future cashflows for the company, and surely that distribution would have assumed that it was very likely (e.g., a 98% probability) that the reimbursement rate would have been $365 per patch, in both the short and the long term.[43] After the rate reduction (and subsequent small increase), it was certain that the rate would be a much lower $133 per patch for at least the next year or so; after that, there was some chance that the rate would rebound to $365 per patch or more and some chance that it would remain at $133 per patch indefinitely. Assume that the chance of a return to the $365 rate was 67%, and the chance of the rate remaining $133 was 33%. In such a case, consistent with the court's conclusions, it is indeed more likely than not that CMS or Novitas would revisit the rates and return them to historical levels. Nevertheless, if we value the company using the probability distribution of its future cashflows as that distribution reasonably appears after the rate reduction, the value of the company will certainly be less than what it was reasonably understood to be at signing. Cashflows in the first couple of years are definitely lower than was reasonably expected at signing, and there is a 33% chance that cashflows in the later years might be so as well. These changes in the probability distribution of the target's expected cashflows would unquestionably reduce the value of the company; the only question is how much. Since Bardy derived 29% of its revenues from Medicare reimbursements, a definite reduction of 64% (i.e., from $365 per patch to $133 per patch) in these revenues in the near term and a 33% chance of such reduction in these revenues in the long term could, on reasonable assumptions, result in a decline in Bardy's value of 10% or more.[44] The

41. *Id.* at *31.

42. *Id.* at *33.

43. *See id.* at *9–10, nn.92–96 (describing how one consultant warned Hillrom that rates could be substantially reduced, but Hillrom concluded that this risk was actually small).

44. Computing the actual decline in value would require a complete valuation study, including assumptions about a significant number of additional variables, such as Bardy's margins, weighted-average cost of capital (WACC), capital structure, and so on. *See New Theory*, *supra* note 22, at

question is not whether it is more likely than not that the company's revenues will rebound to historical levels; the question is how the intervening event (the rate reduction) affects the value of the company, in particular, how it affects a reasonable understanding of the probability distribution of the company's future cashflows.[45]

It is worth noting in this regard that Hillrom introduced testimony from a valuation expert that the value of Bardy had fallen to zero.[46] The court rightly rejected this conclusion as "incredible on its face."[47] But, if, as suggested above, Hillrom had introduced expert evidence for a more reasonable conclusion, say, that the value of the company in a discounted cashflow analysis had fallen 25% or 30% because of a combination of lower cashflows in the near term and a significant (even if less than 50%) chance of lower cashflows in the long term, perhaps such evidence could have convinced the court that Bardy had suffered a material adverse effect. The argument could have been bolstered by a comparable company analysis highlighting that IRhythm, the one company all sides (and the court)[48] agreed was comparable to Bardy, saw its stock price fall 68% after Novitas announced the rate reduction.[49] In the end, of course, everything would depend on the reasonability of such valuation evidence in light of accepted principles of corporate finance.[50] The larger point, however, is that the correct inquiry is about the change in the value of the target, all things considered, not just the isolated question about the duration of the rate reduction.

III. THE EXCEPTION IN THE MAE DEFINITION FOR CHANGES IN LAW AND THE DISPROPORTIONALITY EXCLUSION

Although the court's holding that the reduction in reimbursement rates would not reasonably be expected to have an (uncapitalized) material adverse effect on Bardy sufficed to dispose of the case, the court went on to consider whether, if this conclusion were mistaken, the reduction in rates was actually excepted from the definition of "Material Adverse Effect" under the

766–767. Very roughly, however, if percent reductions in revenue imply equal percent reductions in EBITDA, a 19% reduction in revenue (64% of 22%) for two years and 7% expected reduction (33% of 22%) thereafter would result in about a 9% diminution in the enterprise value of the company, using a 10% WACC. A lower WACC would produce even greater diminutions.

45. In fact, the reduction in Bardy's overall revenues was probably more like 22%. *Bardy*, 2021 WL 2886188, at *39. The reason is that the rate reduction applied to Medicare reimbursements, and Bardy obtained only about 29% of its revenues from Medicare. A 64% reduction over 29% of the revenue base suggests an about 19% decline in overall revenue, but there could be other minor factors involved, and the court gives the figure as 22%. *Id.*

46. *Id.* at *26 n.244.

47. *Id.*

48. *Id.* at *28 (describing IRhythm as "an indisputably comparable market participant").

49. *Id.* Regarding the court's discussion of IRhythm's stock price, see the discussion below in Section C.2.

50. As explained below in the conclusion, however, Hillrom may have had litigation-driven reasons to argue that Bardy's value had been reduced to zero or almost zero.

exception in the definition for "any change in any Law (including … any Health Care Law) … or any interpretation thereof."[51] Since this exception was qualified by a disproportionality exclusion, even if the rate reduction fell within the exception, it would still count as an event that was a (capitalized) Material Adverse Effect under the MAE definition "to the extent" that it affected Bardy disproportionately. The court thus faced two issues: first, whether the rate reduction fell within the exception for changes in law, and second, even if it did, was the effect of the reduction on Bardy disproportionate?

A. THE EXCEPTION FOR CHANGES IN LAW

The parties did not dispute that any change in rates by CMS would be a change in law, but Hillrom argued that rates set by Novitas, a private entity acting as a Medicare Administrative Contractor, were not "Laws" within the meaning of the agreement. Noting that the agreement defined "Law" to include any regulation or rule issued by any governmental body including "any authorized contractor engaged by any governmental, legislative, executive or judicial agency … or regulatory body,"[52] the court had no trouble concluding that the change in rates by Novitas was a change in "Law" within the meaning of the agreement and so was excepted from the definition of "Material Adverse Effect" under the exception for "changes in Law."[53]

This is unsurprising and entirely straightforward. Perhaps more important is that, as noted in the introduction, Vice Chancellor Slights clearly distinguishes between *events* that *are* (capitalized) Material Adverse Effects and the *effects*, such as (uncapitalized) material adverse effects, that are reasonably expected to follow from them.[54] I have argued in two recent articles that, if these two are conflated, exceptions in MAE definitions may be taken to apply to effects rather than the events that cause them, thereby expanding the scope of the exceptions beyond the plain meaning of the contractual language.[55] The court quotes one of these articles with approval, noting that it "caution[s] courts to interpret MAE exceptions by reference to

51. *Bardy*, 2021 WL 2886188, at *33.
52. *Id.*
53. *Id.* at *34.
54. *E.g.*, *id.* at *25 n.235 (citing Miller, *What Do Exceptions in MAE Definitions Except?* as "cautioning courts to interpret MAE exceptions by reference to the actual MAE event, as opposed to the knock-on effects of those events"); *See also id.* at *22 (stating, "Bardy raises at the threshold a textual argument that the April Novitas Rate is not an '*event'* that affects the "Business") (emphasis added); *Id.* at *33 (stating that "[H]illrom has failed to carry its burden to prove than an *event* had or would reasonably be expected to have an *effect* sufficiently material and adverse to qualify as an MAE") (both emphases added); *Id.* at *3 (stating that "the Agreement sets forth an exception to this carve-out for *events* that disproportionately affect Bardy") (emphasis added).
55. *See* Miller, *Pandemic Risk*, *supra* note 6, at 711; *see also* Miller, *What do Exceptions in MAE Definitions Except?*, *supra* note 6.

the actual MAE event, as opposed to the knock-on effects of those events."[56] The court also carefully and consistently distinguishes between events causing material adverse effects and the material adverse effect themselves throughout the opinion.[57] It appears, therefore, that the Court of Chancery is adjusting course from dicta in *Akorn* and *KCake* that confuse events causing material adverse effects and the material adverse effects themselves.[58]

Someone may object that the distinction between events causing material adverse effects and those effects themselves is blurred if the MAE definition provides that a "Material Adverse Effect" may be not only an "event" but also an "effect" that has, or would reasonably be expected to have, a material adverse effect on the company.[59] I think this is mistaken. To be sure, the definition of a "Material Adverse Effect" in virtually every public company merger agreement says that a "Material Adverse Effect" is any of various things—an event, a fact, a change, a circumstance, a development, an effect, etc.—that has or would reasonably be expected to have (sometimes, is likely to have) an (uncapitalized) material adverse effect on the company. In an article in the *Journal of Corporation Law*, I have called whatever is referred to by the phrase "any event, fact, change, circumstance, development, effect," etc. the "Underlying Predicate Event,"[60] which for convenience I have often shortened to "event," a usage followed by the *Bardy* court.[61] As to the various items commonly listed as Underlying Predicate Events, there is just no relevant difference between an event and a fact, a change and a development, a circumstance and an effect, and so on. Certainly, no MAE case in Delaware has ever marked any difference. I thus think the exact list of items listed as Underlying Predicate Events (like the exact list of MAE Objects)[62] is

56. *Bardy*, 2021 WL 2886188, at *25 n.235 (citing Miller, *What Do MAE Exceptions Except?* as "cautioning courts to interpret MAE exceptions by reference to the actual MAE event, as opposed to the knock-on effects of those events").

57. E.g., *id.* at *3 (stating that "the Agreement sets forth an exception to this carve-out for *events* that disproportionately affect Bardy") (emphasis added); *id.* at *22 (stating, "Bardy raises … a textual argument that the [reduction in rates] is not an '*event'* that affects the "Business") (emphasis added); *id.* at *33 (stating that Hillrom failed to prove "that an *event* had or would reasonably be expected to have an *effect* sufficiently material and adverse to qualify as an MAE") (emphasis added).

58. *See* Miller, *Pandemic Risk*, *supra* note 6, at 711; *see also* Miller, *What do Exceptions in MAE Definitions Except?*, *supra* note 6.

59. The Hillrom-Bardy agreement is an example. It provided in pertinent part that "Material Adverse Effect" meant "any fact, event, circumstance, change, effect or condition that, individually or in the aggregate, has had, or would reasonably be expected to have a material adverse effect ….". *Bardy*, 2021 WL 2886188, at *13.

60. Miller, *Pandemic Risk*, *supra* note 6, at 687.

61. E.g., *Bardy*, 2021 WL 2886188, at *3 (stating that "the Agreement sets forth an exception to this carve-out for *events* that disproportionately affect Bardy") (emphasis added); *id.* at *22 (stating, "Bardy raises … a textual argument that the [reduction in rates] is not an '*event'* that affects the "Business") (emphasis added); *id.* at *33 (stating that Hillrom failed to prove "that an *event* had or would reasonably be expected to have an effect sufficiently material and adverse to qualify as an MAE") (emphasis added).

62. See the discussion above in Section II.

irrelevant, including whether one of the terms in the list is "effect." The important point is that the definition refers to separate—to use neutral terms—"things" or "objective features of the world"—the first of which must exist in the present and the latter of which may exist in the present but may well also still be in the future, which two things must be related as cause to effect.

A moment's reflection shows that the first of these—what I have been calling the "event"—is itself an effect of something else; no event occurs in the world uncaused (or least most metaphysicians so hold). Likewise, the material adverse effect (if there is one) is a reduction in the value of the target, and that reduction can certainly reasonably be called an "event." It is something that happened in the world: the value went down, and so it is perfectly sensible to call that happening an "event." It simply does not matter which words an agreement uses to refer to the two things that the definition requires be related as cause to effect. Properly speaking, probably both are best called "events" when considered in isolation, but when we consider them in relation to each other the earlier is the cause of the latter, and the latter is an effect of the earlier. I have chosen to call them the "event" and the "effect," and the Court of Chancery in *Bardy* seems to have adopted this usage, but the analysis would be unchanged if we called these two things the "effect" and the "follow-on effect." The legal question is whether whatever the acquirer points to as being the thing in the world referred to by the phrase "an event, fact, change, circumstance, development, effect" (or whatever the exact phrase is) is such that it would reasonably be expected to have the requisite effect (i.e., a material adverse effect) on the target.

B. THE DISPROPORTIONALITY EXCLUSION

As noted above, the exception in the MAE definition for changes in law was qualified by a disproportionality exclusion, and so, even if the rate reduction that caused the adverse effect on Bardy fell into this exception, it nevertheless could still count as an event within the definition "to the extent [it] has a materially disproportionate impact on [Bardy] as compared to other similarly situated companies operating in the same industries or locations … as Bardy."[63]

1. Determining the Control Group

Before it could determine whether the effect on Bardy of the rate reduction was disproportionate, the court first had to determine the control group of companies against which the effect would be measured. It thus began its discussion by noting that, whereas disproportionality exclusions in prior agreements construed by the Court of Chancery tended to speak of

63. *Bardy*, 2021 WL 2886188, at *34.

"comparable entities operating in the [same] industry," the disproportionality exclusion in the Hillrom-Bardy agreement referred to "similarly situated companies operating in the same industries."[64] Observing that settled canons of contract interpretation require the court to give effect to every word and treat no word as surplusage, the court proceeded to construe the phrase "similarly situated," which it said was an "additional qualifier" that marks out a proper subset of the universe of companies operating in the same industry as Bardy. The court ultimately held that "because the rate changes at issue affect specific categories of products in the ambulatory cardiology monitoring market," a company was "similarly situated" to Bardy if it was similar in "relevant characteristics," including "operational scale (i.e., revenue), developmental maturity and, most importantly, product portfolio (i.e., relative product mix and sophistication)."[65] On the basis of these factors, the court found that only one company—IRhythm—operated in the same industry as Bardy and was "similarly situated."[66]

The court's construction of the phrase "similarly situated" strikes me as odd in two respects. First, the court was comparing definitions construed in prior cases that spoke of "*comparable* entities operating in the same industry" (emphasis added) with the definition in the case before it that spoke of "*similarly situated* companies operating in the same industry" (emphasis added).[67] The phrase "similarly situated" is thus not aptly described as an "additional qualifier" not present in the other definitions that the court had previously construed; it is, I would say, a mere synonym for the qualifier "comparable" that appeared in those definitions. Presumably, a "comparable" company must be similarly situated, and a "similarly situated" company must be comparable; hence, even if not literally synonymous, the terms are likely co-extensive in the relevant context. I do not see the language in the disproportionality exclusion in the Hillrom-Bardy merger agreement as being significantly different from those in the prior cases to which the court referred.

Second and more important, we ought to keep in mind the larger context in which disproportionality exclusions operate. We are identifying companies so that we can compare (a) the effect that the relevant event had *on the value* of these companies, with (b) the effect that that event had *on the value* of the target. Such a procedure makes sense only if the companies in the control group are comparable to the target in accordance with accepted principles of corporate finance used in performing comparable companies analyses for valuation purposes. If a company is not comparable to the target in this sense, then there would be no point in comparing the effect of the event alleged to have had a material adverse effect on the target with the effect of

64. *Id.* at *35.
65. *Id.*
66. *Id.* at *36–37.
67. *Id.* at *35.

that event on the other company. Reasonable commercial parties interested in the value of the target would not engage in such comparisons because they would reveal nothing important about the event in relation to the value of the target, which is the only thing that really matters in the MAE context. A comparative analysis of the adverse effects of an event on a company, just like a comparable companies analysis for valuation purposes, provides useful information only to the extent that the companies in the control group are truly comparable *for the purposes of valuation* in accordance with accepted principles of corporate finance.

Given the good commercial sense of the judges on the Court of Chancery, it is hardly surprising that in previous cases, and now again in *Bardy*, the court looked to the companies that the parties or their advisors had treated as comparable in comparable company valuation studies they or their financial advisors had performed before entering into the merger agreement.[68] Thus, IRhythm, the only company Hillrom used to value Bardy,[69] was the only company that Vice Chancellor Slights ultimately found to be "similarly situated" to Bardy and operating in the same industry as Bardy.[70]

2. Construction of the "to the extent" Language and Another Confusion of Events and Effects

Having limited the control group to just IRhythm, the court then turned to the standard language in disproportionality exclusions that provides that an event otherwise excepted from the MAE definition may nonetheless come within the definition "*to the extent*" the event adversely affects the target disproportionately.[71] As the court explained,

> That language [i.e., "to the extent," etc.], plainly read, indicates that Bardy only agreed to assume the risk of an event where the *delta* of its impact on the target's business, as compared to others "similarly situated," is, itself, material. For example, if the risk "adversely affects all [similarly situated] companies operating in the seller's industry, but the average adverse effect is only a 10% diminution in cashflows while the seller's cashflows are reduced by 50%, then the question will become whether a 50% - 10% =

68. *Akorn, Inc. v. Fresenius Kabi, AG*, No. 2018-0300, 2018 WL 4719347, at *59 (Del. Ch. Oct. 1, 2018); *Snow Phipps Grp., LLC v. KCake Acquisition, Inc.*, No. 2020-0282, 2021 WL 1714202, at *35–36 (Del. Ch. April 30, 2021).

69. *Bardy*, 2021 WL 2886188, at *36 n.339 (stating that Hillrom "used *only* IRhythm's revenue multiples to value Bardy"). Bardy apparently considered some other companies to be competitors of Bardy but did not use them in valuing Bardy. *See id.* at *36 (referring to documents presented pre-deal to Hillrom's board that "show it considered BioTelemetry and Preventice as competitive with Bardy and IRhythm at the time of the Merger").

70. *Id.* at *36–37.

71. *Id.* at *37 (emphasis in original).

40% reduction in cashflows constitutes a Material Adverse Effect on the company."[72]

This understanding of disproportionality exclusions seems to me certainly correct; indeed, the court is quoting one of my own articles in the last sentence of the quotation above. Moreover, this understanding is clearly implicit in Vice Chancellor Laster's application of the disproportionality exclusion in *Akorn*,[73] and it reflects what I take to be the views of the great majority of transactional lawyers.[74] It also makes good economic sense.[75]

Nevertheless, this understanding of disproportionality exclusions cannot be squared with the actual language typically found in such provisions. What the language literally says is *not* what the parties actually intend. In fact, what the language actually says involves yet again a confusion between Material Adverse Effects and material adverse effects, between events that cause material adverse effects and the material adverse effects themselves.

To see why, return again to first principles. Under the plain language of the typical MAE definition, the base definition defines the term "Material Adverse Effect" to refer to certain *events* (i.e., those that have, or would reasonably be expected to have, an (uncapitalized) material adverse effect on the target), and then the exceptions remove some such events from the scope of the definition. Some common exceptions remove events absolutely, such as exceptions for events or changes arising from the existence of the agreement between the parties or its public announcement.[76] If such an event occurs and has a material adverse effect on the target, the event is nevertheless outside the scope of the definition and in no way counts as a (capitalized) Material Adverse Effect. But exceptions related to systematic

72. *Id.* (emphasis in original) (quoting Miller, *COVID-19*, *supra* note 17, at 5–6). The quotation from my article here embodies the error of confusing Material Adverse Effects with material adverse effects: the phrase "Material Adverse Effect" in the last sentence ought not be capitalized. The question is whether the 40% reduction in cashflows produces a sufficiently large reduction in the value of the company—i.e., an (uncapitalized) material adverse effect on the company. The related (capitalized) Material Adverse Effect would be the event that has, or would reasonably be expected to have, this effect.

73. *Akorn*, 2018 WL 4719347, at *59–60.

74. *But see* Guhan Subramanian & Caley Petrucci, *Deals in the Time of Pandemic*, 121 COLUM. L. REV. 1405, 1414-15 (2021) (arguing that there are two kinds of disproportionality exclusions, a seller-friendly version with the meaning given in the text and a buyer-friendly version under which, if an event affects a target disproportionately, the entire effect and not just the disproportionate portion thereof is taken into account in determining whether the effect on the target is a material adverse effect).

75. In Miller, *Deal Risk supra* note 17 at 2089-91, I argue that "business risks" (as defined in that article) are efficiently allocated to the target. The disproportionate portion of an adverse effect on the target is a materialization of a risk peculiar to the target and so properly thought of as a materialization of a business risk; hence, all the efficiency rationales for allocating business risks to the target also support the allocation to the target of the risks of disproportionate effects arising from the materialization of systematic risks as well.

76. I have elsewhere called risks arising from such events "agreement risks." Miller, *Deal Risk supra* note 17 at 2087–89; *see also Akorn*, 2018 WL 4719347, at *49–50 (adopting the classification scheme of risks, including agreement risks, from the *Deal Risk* article).

events, such as general changes in the economy or, as in *Bardy*, general changes in law, are commonly qualified by disproportionality exclusions. Under the language of the definition, these *events* are excepted not absolutely but only "to the extent" that their *effects* on the target are not disproportionate. Equivalently, such events are *included* within the scope of the definition, and so are *not* excepted, "to the extent" that their *effects* on the target are disproportionate.

Thus, read literally, the language of a disproportionality exclusion says that some *events* partly are, and partly are not, (capitalized) Material Adverse Effects. Whether such idea is even intelligible is highly doubtful. It would seem to me that an event either is, or else is not, a (capitalized) Material Adverse Effect; events cannot be resolved into component parts such that one part of the event is a (capitalized) Material Adverse Effect and another part is not. But even allowing we can make sense of this idea, it is certainly not what the parties intend in a disproportionality exclusion. The parties intend not that the *event* be somehow divided into parts with one part being a (capitalized) Material Adverse Effect and another part not, but that the *effect* of the event be divided into parts—the proportionate part and the disproportionate part—with only the latter part counting in determining whether the company has suffered an (uncapitalized) material adverse effect. Unlike the events that cause them, effects can quite sensibly be divided into parts, because the effect is a reduction in the value of the target, which is ultimately an amount of money measured in dollars, and amounts of money can be, and routinely are, divided into smaller amounts that add up to the original amount. Moreover, once we divide the reduction in value suffered by the target into its proportionate and disproportionate parts, if the disproportionate part of the effect is large enough to be an (uncapitalized) material adverse effect, then the event causing that effect is a (capitalized) Material Adverse Effect—not in part or only to a certain extent, but absolutely and without qualification. If the disproportionate part of the effect is not large enough to be an (uncapitalized) material adverse effect, then the event causing that effect is not a (capitalized) Material Adverse Effect—again, not in part or only to a certain extent, but absolutely and without qualification.

Thus, although the language of the typical disproportionality exclusion says that some events are, to a greater or lesser extent, (capitalized) Material Adverse Effects, this is patently incorrect. Contrary to what the language literally says, the intention is that every event either simply is, or simply is not, a (capitalized) Material Adverse Effect. Events not falling into an exception are (capitalized) Material Adverse Effects depending on whether or not they have, or would reasonably be expected to have, an (uncapitalized) material adverse effect on the company. Events falling into an exception qualified by a disproportionality exclusion are (capitalized) Material Adverse Effects depending on whether or not the disproportionate portion (if any) of any adverse effect they have, or would reasonably be thought to have, on the company is an (uncapitalized) material adverse effect. (Needless to say, events falling into an exception *not* qualified by a disproportionality exclusion are simply not (capitalized) Material Adverse Effects). The language of the typical disproportionality exclusion is thus inconsistent with the intentions of the parties. In the very language of the typical MAE definition, we have yet again another confusion of events with effects, of (capitalized) Material Adverse Effects with (uncapitalized) material adverse effects. That the confusion has gone unrecognized and uncorrected for so long shows how insidious that confusion is.

Happily, there is a straightforward way of correcting the drafting here. After the base definition and the list of exceptions, the MAE definition ought to say that, notwithstanding its falling into an exception, an event will nevertheless count as a Material Adverse Effect after all if (a) the event has, or would reasonably be expected to have, an adverse effect on the target, and (b) the portion of the adverse effect on the target that is disproportionate in comparison to the adverse effect of the event on comparable companies operating in the same industry is, or would reasonably be expected to be, a material adverse effect. Written this way, the definition clearly and consistently distinguishes between events and effects, makes it clear that it is the effect that is analyzed into proportionate and disproportionate parts, and says on its face that an event the disproportionate effect of which is a material adverse effect, even if otherwise falling into an exception, is nevertheless a Material Adverse Effect within the meaning of the definition.

3. Applying the Disproportionality Exclusion as Construed by the Court

Putting this aside, however, and returning to the court's application of the disproportionality exclusion, we see that the court almost had to return to some of the questions it had sidestepped in its discussion of whether the rate reduction had resulted in an (uncapitalized) material adverse effect. In particular, although the parties disputed which financial metric or metrics to use in measuring the adverse impact of the rate reduction on Bardy and IRhythm, with Hillrom arguing for EBITDA and Bardy arguing for revenues, the court held that, regardless of the metric used, Bardy had not been disproportionately affected compared to IRhythm.[77]

77. *Bardy*, 2021 WL 2886188, at *38. Although the court acknowledged the importance of EBITDA as a financial metric in prior MAE cases, it also stated that "th[is] metric operates with less force … when the target is still in startup mode and … is unprofitable and invested heavily in growth." *Id.* There is some truth in this, for sometimes when a company is operating unprofitably, investment bankers and valuation experts will turn to valuation methods other than discounted cashflow analyses (e.g., valuations based on multiples of revenues). That said, however, it would be easy to draw some dangerously erroneous conclusions from what the court says here. After all, no reasonable acquirer buys a company for its revenues, no matter how fast those revenues are

As to revenues, the court noted that while Bardy's revenues were off 22%, IRhythms were off 16%, a difference the court describes as "only a few percentage points."[78] The point here is that, regardless of whether a 22% decline may be a material adverse effect, the delta of just 22% - 16% = 6% is not. This seems clearly correct.

As to free cashflows and their present value, Hillrom again relied on its expert who, most implausibly, claimed that the value of Bardy had dropped to zero—a conclusion that the court described as "worth less than the paper on which the Agreement was printed."[79] Rejecting the expert's opinion, of course, left the court with no credible evidence as to the diminution in the value of Bardy resulting from the rate reduction, and that implied that Hillrom had not carried its burden of proof. The court further noted, however, that Hillrom had compared the change in the value of Bardy (as found by its expert) with the change in the price of IRhythm's publicly-traded shares. This juxtaposition, the court said, "compares apples and oranges—you can do it, but the results yield very different flavors on this palate."[80]

The meaning of this remark is unclear. A footnote refers to a passage in *Hexion* in which Vice Chancellor Lamb notes that valuation experts in that case computed somewhat different values of the target company—in one case, wildly different values—when they used a discounted cashflow analysis and when they used a comparable transaction analysis.[81] This fact is hardly surprising, however, as valuation studies of the same company using different methodologies commonly produce significantly different values. In any event, that different valuation methods applied to the *same company* often produce disparate results has no clear relevance to the question of whether, in comparing the values of *two different companies*, it makes sense to value one using a discounted cashflow analysis and another using market data—i.e., its trading price in a presumably efficient market. In Delaware appraisal proceedings, for instance, both methods are permissible and regarded as

growing; a reasonable acquirer buys a company because it expects that, sooner or later, the company will have positive free cashflows, and the price the acquirer is willing to pay (leaving aside questions of synergies) is the present value of those free cashflows. With a start-up like Bardy, the cashflow projections might have to be expected to ten years as opposed to the usual five (before capturing cashflows even further in the future in the terminal value), but it simply violates the most basic principles of corporate finance to suggest that revenues, not free cashflows, are what ultimately matters in valuing a company, regardless of its stage of development. Any other view suggests the old joke about losing money on every sale but making it up on volume.

78. *Id.* at *39.

79. *Id.* at *40.

80. *Id.*

81. *See id.* at *40 n.371, referring to Hexion Specialty Chems. v. Huntsman Corp., 965 A.2d 715, 734 (2008) (stating that the target's expert computed the enterprise value of the target as $18.4 billion using a discounted cashflow analysis and $12.37 billion using a public company/transaction analysis) and 734 n.41 (stating that acquirer's expert computed the enterprise value of the target as $11 billion using a discounted cashflow analysis and $11.7 billion using a "public company/transaction" analysis).

reliable in appropriate cases,[82] though there now appears to be something of an unofficial preference for market-based approaches. In comparing the value of two companies, there would be a powerful argument for using the same method for both companies on consistency grounds, provided that doing so was reasonably possible. In *Bardy*, however, the target's shares were not publicly-traded, and in MAE cases, even when the target is a public company, it would normally be impossible to look to the trading prices of its shares to value the company because those prices would tend to include a premium based on market perceptions about the outcome of the MAE litigation. If we generally prefer market-based valuations but use discounted cashflow valuations when market-based valuations are unavailable or unreliable, then it would seem to make perfect sense to compare the value of IRhythm based on its stock price and the value of Bardy based on a discounted cashflow analysis. After all, the stock price of shares trading in an efficient market can reasonably be viewed as the market consensus of the value of those shares as determined by, among other things, discounted cashflow analyses of the company performed by investors.[83]

There is another possible explanation of the court's rejection of the market price of IRhythm's shares as indicative of the company's value. In the same footnote in which it refers to the discounted cashflows and comparable transaction studies in *Hexion*, the court says that "iRhythm's fluctuations in market value have been driven largely by popular guesses on whether the [rate reduction] is here to stay," and "because this is a highly technical subject with evidence on record indicating the [rate reduction] will not endure for a durationally significant period, I reiterate that iRhythm's stock price, on this record, is not a reliable indicator of its estimated value."[84] This argument—that the market cannot value things properly, but experts can—strikes me as being exactly the argument that the Delaware Supreme Court rejected in both *DFC* as applied to pricing regulatory risk[85] and *Dell* as applied to pricing Dell's long-term strategy.[86] Probably, the 68% reduction in the price of the IRhythm shares *was* good evidence of the effect of the rate reduction on the value of IRhythm.

82. E.g., *DFC Global Corp. v. Muirfield Value Partners, L.P.*, 172 A.2d 346 (Del. 2017) (relying on deal price); *Dell, Inc. v. Magnetar Master Fund, Ltd.*, 177 A.3d 1 (2017) (same); *Fir Tree Value Master Fund, LP v. Jarden Corp.*, 236 A.3d 313 (Del. 2020) (relying on unaffected market price). *See generally*, Robert T. Miller, *Stock Market Value and Deal Value in Appraisal Proceedings*, 96 NOTRE DAME L. REV. 1403 (2021) [hereinafter Miller, *Stock Market Value and Deal Value*].

83. *See* Miller, *Stock Market Value and Deal Value*, *supra* note 82, at 1411.

84. *Bardy*, 2021 WL 2886188, at *40 n.371.

85. *DFC Global Corp.*, 172 A.2d at 372–73 (rejecting the argument that market could not properly price regulatory risk).

86. *Dell, Inc.*, 177 A.3d at 30 (rejecting the argument that the market could not properly value Dell's long-term strategy).

CONCLUSION

The lessons from *Bardy* thus appear to be the following. First, in prior cases, although the language of the typical MAE definition would seem to have required courts to distinguish material adverse effects on one MAE Object from material adverse effects on other MAE Objects, courts have ignored this language and merely inquired whether the *value of the company* has declined in an amount that would be material to a reasonable acquirer. In *Bardy*, we learn that consistent with this practice, courts will tend to interpret unusual or bespoke MAE Objects in a manner that leads them to just the same inquiry. Unusual or bespoke MAE Objects are thus generally highly inadvisable. The court will probably interpret them as having a meaning identical to that of more customary MAE Objects, but that process will create an opportunity for a litigant to argue for an interpretation that neither party intended ex ante. If the parties really do want a provision the meaning of which is different from that of a typical MAE clause, tinkering with the MAE Objects is not the way to get it. Rather, the entire MAE clause, along with all its customary defined terms, should be deleted to make it clear that Delaware's MAE jurisprudence is intended *not* to apply. The parties should create their own new defined terms and definitions and be unmistakably clear that these are not intended to be the same old MAE concepts bearing new labels.

Second, in determining whether an event has had, or would reasonably be expected to have, an (uncapitalized) material adverse effect on the target, the question the court should be asking itself is whether, as a result of the event, the value of the target on a standalone basis would reasonably be thought, in accordance with accepted principles of corporate finance, to be reduced by an amount material to a reasonable acquirer. In most cases, the event alleged to be a (capitalized) Material Adverse Effect will reasonably be thought to have reduced the expected cashflows of the company over some future period. The relevant question is then not really how much the expected cashflows in any particular period have declined, nor even for how long the expected cashflows have declined, but rather how much the present value of *all* future cashflows of the company has declined. Focusing on particular aspects of the situation rather than the key issue of the present value of all future cashflows can lead to manifestly incorrect results.

Third, the Court of Chancery now seems to be distinguishing clearly between (capitalized) Material Adverse Effects and (uncapitalized) material adverse effects, that is, between events that have or would reasonably be expected to have (uncapitalized) material adverse effects and those material adverse effects themselves. In particular, the court has expressly noted that exceptions in typical MAE definitions apply to *events*, not their effects. In *Bardy*, the alleged MAE was a change in law, which is an event difficult to confuse with its adverse effect on the target; in *Bardy*, therefore, a confusion of events and effects was less likely than in other contexts. Nevertheless, because the Court of Chancery expressly acknowledged the distinction between events and effects and consistently applied it in *Bardy*, it seems probable that the court will continue to observe the distinction in future cases even when confusion of events and effects might be more likely.

Fourth, in applying a disproportionality exclusion, the court again constructed the control group of companies against which the effects of the event alleged to be a (capitalized) Material Adverse Effect are to be measured by looking to the companies that reasonable investment bankers or valuation experts would use in valuing the company using a comparable companies methodology. Such companies are the only reasonable ones to use in this context, because the point of the disproportionality exclusion is to include with the scope of the definition (i.e., exclude from an exception) events that affect the *value* of the target company disproportionally. Hence, only companies reasonably comparable to the target for purposes of valuation in accordance with accepted principles of corporate finance can sensibly be placed in the control group. As it did in *Akorn*, the court in *Bardy* looked to which companies the parties and their advisors used in valuing the target prior to entering into the agreement.

Fifth, the court construed the "to the extent" language in the disproportionality exclusion by expressly disaggregating the adverse *effect* of the event alleged to be a (capitalized) Material Adverse Effect into proportionate and disproportionate parts, that is, into a reduction in value proportionate to that experienced by companies in the control group and the remaining reduction in value that is the disproportionate part of the reduction. I argued that, while interpreting and applying a typical disproportionality exclusion in this way no doubt reflects the understanding of the great majority of transactional lawyers and sophisticated commercial parties, this understanding does not truly square with the literal language of such provisions. Read literally, such provisions involve yet another instance of the confusion of events and effects that plagues this area of law. The typical language is thus a litigation accident waiting to happen and ought to be revised to reflect more clearly the intentions of the parties.

Finally, I want to call attention to the two facts that I think were likely the most important ones in this case: the applicability of the change-in-law exception to Novitas's reduction in reimbursement rates, and the severity of the decline in IRhythm's stock price as a result of that reduction. I say that these are the key facts because whatever adverse effect Bardy had suffered, it indisputably resulted from Novitas's dramatic reduction in reimbursement rates for Bardy's CAM patches, and since this reduction was certainly a "change in law" within the meaning of the agreement, to have any chance of prevailing, Hillrom had to argue that the reduction in rates affected Bardy disproportionately. That is, the applicability of the change-in-law exception required Hillrom to argue that the disproportionate portion of the effect, taken by itself, was an (uncapitalized) material adverse effect. Unfortunately for

Hillrom, although it argued for a wider group of companies as a control group, the only company reasonably comparable to Bardy was IRhythm, and here we reach the second key fact: the reduction in IRhythm's stock price was quite severe (68%). This meant that only that portion of a reduction in Bardy's value that exceeded a 68% reduction would count towards an (uncapitalized) material adverse effect. Since a reduction in value of less than 20% may not amount to a material adverse effect,[87] Hillrom probably had to argue that the reduction in Bardy's value was at least 88% and probably more. This explains why Hillrom introduced expert evidence—highly implausible though it was—that the value of Bardy had been reduced to zero. If you are going to argue that the company's value was reduced to, say, 5% of its pre-deal value, why not just go all the way and say the company is worthless?

This raises a disquieting possibility. Suppose that, as I think likely even though the court found otherwise, the 68% reduction in IRhythm's share price resulting from the rate reduction reflects the actual effect of the rate reduction on IRhythm's value. If so, then given how comparable IRhythm and Bardy were, probably Bardy suffered a similar reduction in value and so, contrary to the court's holding, probably had suffered a material adverse effect as a result of the rate reduction. Still, given the extreme reduction in IRhythm's value, the disproportionate portion (if any) of the adverse effect on Bardy was almost certainly not by itself a material adverse effect. The court's resolution of the case is thus correct. Oddly, however, Hillrom's litigation position was so weak in part because the adverse effect on Bardy (and IRhythm) of the rate reduction had been so severe. If the value of both companies had been reduced by, say, 25% to 50% rather than by 70% or more, then Hillrom might have had a better chance of eking out a win. That is, Hillrom might just have been able to navigate between the Scylla of the court's finding that Hillrom had shown that Bardy's value had been reduced but not enough to make the disproportionate portion of that reduction a material adverse effect, and the Charybdis of the court's finding that Hillrom's claims about the reduction in Bardy's value were so extreme as to be implausible.

This may suggest that, if a company suffers a veritable catastrophe between signing and closing and loses all or almost all its value, the acquirer will still have to close if the catastrophe results from an event excepted under the MAE definition, even if the exception is qualified by a disproportionality exclusion, provided that comparable companies have suffered comparable catastrophes. It is true that, in such cases, the MAE clause in the agreement would provide the acquirer no relief. There would still be a possible avenue

87. *Akorn*, 2018 WL 4719347, at *75–76 (holding that a 20% reduction was a material adverse effect).

of escape, however, in the common law doctrine of frustration of purpose,[88] which would apply in precisely those cases when the value of the company was reduced to zero or near to it. Perhaps tellingly, Hillrom did argue frustration of purpose in addition to the MAE issues—the first time, to my knowledge, that a litigant in Delaware has argued frustration in an MAE case. Since the court held that Bardy had not suffered an (uncapitalized) material adverse effect, however, it also quickly concluded that the doctrine of frustration did not apply.[89] As I suggested above, I think it quite possible that Bardy *had* suffered a material adverse effect, but that effect probably fell in the range of the 68% reduction in value suffered by IRhythm, not the 100% reduction Hillrom claimed. If so, the reduction was not severe enough to come within the doctrine of frustration of purpose, and Hillrom still deserved to lose the case.

88. *Akorn*, 2018 WL 4719347, at *57 (quoting with approval from Andrew A. Schwartz, *A "Standard Clause Analysis" of the Frustration Doctrine and the Material Adverse Change Clause*, 57 UCLA L. REV. 789, 828 (2010)) and stating, "[t]his common law doctrine 'provides an escape for an acquirer if the target experiences a catastrophe during the executory period.'").

89. *Bardy*, 2021 WL 2886188, at *40.