Stock Market Value and Deal Value In Appraisal Proceedings

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STOCK MARKET VALUE AND DEAL VALUE IN APPRAISAL PROCEEDINGS

Robert T. Miller*

INTRODUCTION

This Essay considers two methods of valuing public companies in the context of appraisal proceedings under section 262 of the Delaware General Corporation Law (DGCL). The first method relies on the efficient capital markets hypothesis (ECMH) and values the company based on the market price of its shares before any public disclosure of the possibility of a transaction (the unaffected market price). The second relies on the price that an unrelated party agrees to pay to acquire the company in a transaction negotiated at arm's length after a robust sales process by the selling board (the deal price). Both the unaffected market price and the deal price are determined by market forces, albeit in different markets: with the unaffected market price, the relevant market is the stock market generally, while with the deal price, the relevant market is the market for corporate control. The deal price is almost always much higher than the unaffected market price, commonly thirty to fifty percent higher.[1] Each valuation method raises technical legal issues under the statutory language of section 262, and although such issues are often important in appraisal proceedings, I shall largely set them aside. My purpose is to explore why two different market prices diverge so significantly and systematically and to determine what in general this implies for the use of the two prices in Delaware appraisal proceedings.

I. BACKGROUND ON DELAWARE APPRAISAL PROCEEDINGS

Section 262 of the DGCL provides that, in certain cases, a stockholder of a corporation merging with another corporation may refuse to accept the merger consideration and instead seek appraisal of his shares in the Court of

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1 BUS. VALUATION RES., CONTROL PREMIUM STUDY: 2ND QUARTER 2020, at 8 (2020).

Chancery.[2] In such cases, the court is required to determine the "fair value" of the stockholder's shares on the date of the merger,[3] taking into account "all relevant factors."[4] Under *Weinberger v. UOP, Inc.*, the court may consider "proof of value by any techniques or methods which are generally considered acceptable in the financial community and otherwise admissible in court,"[5] but the statutory mandate to consider all relevant factors entails that there may be no presumption in favor of any particular method of valuing the shares.[6] Furthermore, the court is to value the company as a going concern on a standalone basis[7] and then award the shareholder his proportionate share of that value. Statutory fair value excludes "any element of value arising from the accomplishment or expectation of the merger,"[8] and so the value of synergies created by the transaction may not be included in the fair value of the shares, even if the deal price includes value from such synergies.

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[2] More precisely, under section 262(b), appraisal rights are available for any shares of stock of a corporation constituent to a merger effected (with a few minor exceptions) under the DGCL, including long-form mergers under section 251(c), short-form mergers under section 253, and medium-form mergers under section 251(h), unless the shares fall into the so-called market exception created by section 262(b)(1)–(2). DEL. CODE ANN. tit. 8, § 262(b) (2020). The market exception makes appraisal rights unavailable if, prior to the transaction, the shares were listed on a national securities exchange (or held of record by more than 2000 holders) and the holders of the shares are required by the terms of the merger agreement to accept for such shares anything other than shares of stock of the surviving corporation, shares of stock listed on a national securities exchange (or held of record by more than 2000 holders), or cash in lieu of fractional shares. The upshot is that, when the merger consideration is cash, appraisal rights are always available; such rights are not available in public-company, stock-for-stock mergers.

[3] *Id.* § 262(a).

[4] *Id.* § 262(h).

[5] 457 A.2d 701, 713 (Del. 1983). Prior to *Weinberger*, Delaware used the so-called Delaware-block method, which computed fair value by ascertaining the asset (i.e., book) value, market value, and earnings value (i.e., multiple of earnings) of the company, and then taking a weighted average of results, the relative weights being determined in accordance with the totality of the facts and circumstances, including the perceived reliability of each value in the particular case. *See* EDWARD P. WELCH, ROBERT S. SAUNDERS, ALLISON L. LAND & JENNIFER C. VOSS, FOLK ON THE DELAWARE GENERAL CORPORATION LAW § 262.10(A)(1) (7th ed. 2020). *See also* Paskill Corp. v. Alcoma Corp., 747 A.2d 549, 555–56 (Del. 2000); Bell v. Kirby Lumber Corp., 413 A.2d 137, 146–47 (Del. 1980); Tri-Continental Corp. v. Battye, 74 A.2d 71, 76 (Del. 1950). Unsurprisingly, the results of the block method often bore little relation to the values contemporary forms of financial analysis would suggest. For example, in *Francis I. duPont & Co. v. Universal City Studios, Inc.*, 312 A.2d 344 (Del. Ch. 1973), the company's earnings had been increasing significantly for several years and were expected to continue to increase in the future. Although the plaintiff urged the court to compute the earnings value of the company as a multiple of the most recent year's earnings, the court, adhering to precedent, computed the earnings value as a multiple of the average earnings over the last five years. *Id.* at 348–39.

[6] DFC Glob. Corp. v. Muirfield Value Partners, L.P., 172 A.3d 346, 363–66 (Del. 2017); Golden Telecom, Inc. v. Global GT LP, 11 A.3d 214, 217–18 (Del. 2010).

[7] Dell, Inc. v. Magnetar Glob. Event Driven Master Fund Ltd., 177 A.3d 1, 20 (Del. 2017); Cavalier Oil Corp. v. Harnett, 564 A.2d 1137, 1144 (Del. 1989).

[8] DEL. CODE ANN. tit. 8, § 262(h) (2020).

Historically, the Court of Chancery has relied on many different valuation methods, including the unaffected market price of the company's shares, the deal price, discounted cashflow analyses, comparable company analyses, and comparable transaction analyses.

For many decades, appraisal actions involving public companies were rare except in related-party transactions. This began to change in the early 2000s with the emergence of appraisal arbitrageurs, i.e., hedge funds, often founded by plaintiffs' lawyers, whose investment strategy was to acquire shares in companies that had announced mergers precisely in order to seek appraisal for such shares.[9] For several years, the appraisal arbitrageurs enjoyed spectacular returns,[10] mostly by convincing the Court of Chancery to find, on the basis of discounted cash flow analyses, that the fair value of the company's shares exceeded the deal price. Such cases produced strong negative reactions from the business community, the corporate bar, and many academics, and in response the Delaware General Assembly enacted certain minor changes to the appraisal statute. These changes had little effect,[11] however, and appraisal arbitrage reached its apogee in 2016 in *In re Appraisal of Dell, Inc.*[12] In that case, the court gave no weight to the deal price, even though it resulted from a months-long, highly publicized sales process conducted, as the court itself concluded, in a way that easily comported with all applicable fiduciary standards.[13] Instead, the court valued the company using its own discounted cashflow analysis and concluded that, under the intense glare of the investment community, the directors of one of the largest companies in the world, assisted by world-class financial advisors, backed up by the recommendations of the leading proxy-advisory firms,[14] and with the approval of a majority of the unaffiliated shares voting on the merger,[15] had sold the company for more than $6 billion less than its fair value.[16] Apparently, that was too much for the Delaware Supreme Court. In a pair of opinions, one reversing the Court of Chancery in *Dell*[17] and the other reversing it in a similar but less dramatic case, *DFC*,[18] the Delaware Supreme Court came down strongly in favor of relying on market prices in appraisal cases. In both decisions, the court remanded to the Court of Chancery, indicating that it expected that court to enter an award at the deal price.

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9 *See* Wei Jiang, Tao Li & Randall Thomas, *The Long Rise and Quick Fall of Appraisal Arbitrage* 3, 5, 12 (Vanderbilt Univ. L. Sch., Legal Studies Research Paper Series, No. 20-16, 2020), http://ssrn.com/abstract=3546281.

10 *See id.* at 49.

11 *See id.* at 14–18.

12 C.A. No. 9322, 2016 WL 3186538 (Del. Ch. May 31, 2016), *aff'd in part, rev'd in part*, 177 A.3d at 1.

13 *Id.* at *29 (stating "the Company's process easily would sail through if reviewed under enhanced scrutiny").

14 *Id.* at *18.

15 *Id.* at *19.

16 *Dell*, 177 A.3d at 37.

17 *Id.* at 19.

18 DFC Glob. Corp. v. Muirfield Value Partners, L.P., 172 A.3d 346, 351 (Del. 2017).

II.   The Relation of Market Price and Deal Price in *DFC*, *Dell*, and Their Progeny

But the situation was not quite so simple. In both cases, the Delaware Supreme Court emphasized that, from an economic point of view, a fair price is one that a willing seller would accept from a willing buyer, a point that is equally valid with respect to the unaffected market price and the deal price. Furthermore, in both cases, although the Delaware Supreme Court clearly expected the Court of Chancery to enter an award at the deal price, it first emphasized that the company's shares traded in an efficient market and stated that the unaffected market price was evidence of their fair value.[19] Although certainly aware that deal prices are generally much higher than unaffected market prices, the court never mentioned this fact, a fact that has been the subject of academic debate for decades[20] and that is of obvious importance in appraisal cases.

This omission naturally engendered some confusion. What should the Court of Chancery do when the company's shares trade in an efficient market, which suggests that the fair value is the unaffected market price, *and* the sales process is robust, which suggests that the fair value is the deal price? A case involving this question quickly arose. In *Verition Partners Master Fund Ltd. v. Aruba Networks, Inc.*, the Court of Chancery had to appraise the shares of Aruba Networks after its acquisition by Hewlett-Packard.[21] The shares of the company had traded in an efficient market prior to the transaction, and Aruba's sales process, while imperfect, was fairly robust. Following *DFC* and *Dell*, the Court of Chancery found that the company's unaffected market price was evidence of its fair value. Also following *DFC* and *Dell*, the court found that the deal price was also evidence of fair value, at least once it was corrected to exclude elements of value arising from the merger. Such elements certainly include synergies, and the merger undoubtedly involved significant synergies, some of which Aruba likely captured in the deal price. Accordingly, relying on synergy estimates prepared by the acquirer and its consultants, as well as an academic study of the fraction of synergies captured by targets, the court computed a deal-price-minus-synergies value for the company.[22] The court also thought that elements of value arising from the merger included reductions in agency costs arising when a public company, with its diffuse shareholder base, is acquired and its ownership becomes concentrated in a controlling shareholder, who will better monitor management. But noting that its computation of the synergies impounded in the deal price was highly uncertain and not even attempting to compute a reduction in agency costs impounded in that price, the court held that the unaffected

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19   *Dell*, 177 A.3d at 23 n.108, 24; *DFC*, 172 A.3d at 369.

20   Lynn A. Stout, *Are Takeover Premiums Really Premiums? Market Price, Fair Value, and Corporate Law*, 99 Yale L.J. 1235, 1235 (1990) (collecting sources).

21   C.A. No. 11448, 2018 WL 922139, at *1 (Del. Ch. Feb. 15, 2018), *rev'd and remanded*, 210 A.3d 128 (Del. 2019).

22   *Id.* at *44–45.

market price, which did not involve such uncertainties, was more reliable evidence of the fair value of the company,[23] and it entered an award accordingly.

On appeal, the Delaware Supreme Court reversed and remanded with directions to enter an award at the deal price less synergies.[24] Part of its reasoning was perfectly clear. It stated that reductions in agency costs may occur when a public company's diffuse ownership becomes concentrated in a controlling shareholder such as a private equity fund, but not when, as with Hewlett-Packard's acquisition of Aruba, one public company without a controlling shareholder acquires another; in such transactions, one set of diffuse owners replaces another.[25] In any case, any gains from reductions in agency costs at the target are merely a kind of synergy, and if any existed in this transaction, they were included in the acquirer's estimation of synergies.[26] This reasoning is very convincing, but it supports nothing more than eliminating from consideration the Court of Chancery's concern about agency costs. Indeed, it leaves that court's concern about the uncertainty of estimating synergies quite untouched. To the extent that the Delaware Supreme Court responded at all to this point, it argued that, on the facts of the particular case, there was reason to believe that the target and acquirer had material nonpublic information ("MNPI") about the target's business that justified a deal price higher than the unaffected market price.[27] Indeed, the court was able to point to very specific MNPI—an earnings report that would beat market expectations.[28] For this reason, the Supreme Court regarded the deal price less synergies as a better indication of fair value than the unaffected market price.

Given the holdings of *DFC*, *Dell*, and *Aruba*, and given too that in negotiated transactions targets virtually always share nonpublic information with acquirers, it may have seemed after *Aruba* that the deal price (less synergies, as appropriate) would dominate over the unaffected market price as evidence of fair value. But that impression, too, has proved to be mistaken. In *In re Appraisal of Jarden Corp.*,[29] as in *Aruba*, the deal price was considerably above the unaffected market price and likely impounded significant synergies. Unlike in *Aruba*, however, the Court of Chancery awarded the dissenting shareholders the unaffected market price. It reached that result because, after finding that the market for the company's shares was efficient and so

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23   *Aruba*, 2018 WL 922139, at *53–55.

24   *Aruba*, 210 A.3d at 142. Mostly for procedural reasons not relevant here, the Delaware Supreme Court adopted an estimate of synergies slightly different from that of the Chancery Court below.

25   *Id.* at 133–34.

26   *Id.*

27   *Id.* at 138–39.

28   *Id.* at 139.

29   C.A. No. 12456, 2019 WL 3244085, at *3 (Del. Ch. July 19, 2019), *on reargument in part sub nom. In re* Jarden Corp., No. CV 12456, 2019 WL 4464636 (Del. Ch. Sept. 16, 2019), *and aff'd sub nom.* Fir Tree Value Master Fund, LP v. Jarden Corp., 236 A.3d 313 (Del. 2020).

the unaffected market price was reliable evidence of fair value, the court went on to hold that the target's sales process was so flawed that the deal price was not reliable evidence of fair value, making the deal price less synergies the best available evidence of fair value.[30] The Delaware Supreme Court affirmed,[31] noting that the Court of Chancery had found that there was likely no MNPI that could have raised the unaffected market price.[32] Consistent with this focus on MNPI, in *In re Appraisal of Stillwater Mining Co.*, the Court of Chancery held that there was considerable MNPI known to the target and the acquirer, and this made the unaffected market price of the target shares unreliable as evidence of fair value.[33] Finding the sales process imperfect but not fatally so, the court based its determination of fair value on the deal price. The Delaware Supreme Court affirmed.[34]

What, then, does Delaware law assume about the relation of the unaffected market price when the shares trade in an efficient market and the deal price when it results from a robust sales process? There seem to be two operative assumptions to explain why the deal price exceeds the unaffected market price. The first is that synergies may be built into the deal price, and here synergies are construed broadly enough to include any form of value the acquirer may capture over and above the value of the target on a standalone basis.[35] The second is that the deal price may impound MNPI. Indeed, the theory coming out of *Aruba* is that not only does an acquirer in a negotiated acquisition virtually always get access to MNPI but also that the acquirer is more likely to discover its true value because it has "a much sharper incentive to engage in price discovery than an ordinary trader because it [is] seeking to acquire all shares" of the target and not just a small fraction of them on the open market.[36]

Both of these assumptions are no doubt correct *in some cases*, indeed even in a great many cases, but it should be clear that there are nevertheless many cases where neither assumption would apply. In *DFC*, for example, the acquirer was a private equity fund and never even argued that synergies were included in the deal price.[37] In *Jarden*, the court expressly found that there

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30   *Id.* at *2–3.

31   *Jarden*, 236 A.3d at 316.

32   *Id.* at 321–22.

33   *In re* Appraisal of Stillwater Mining Co., C.A. No. 2017-0385, 2019 WL 3943851, at *57–59 (Del. Ch. Aug. 21, 2019).

34   Brigade Leveraged Cap. Structures Fund Ltd. v. Stillwater Mining Co., 240 A.3d 3, 5 (Del. 2020).

35   *See* Verition Partners Master Fund Ltd. v. Aruba Networks, Inc., 210 A.3d 128, 134 (Del. 2019).

36   *Id.* at 140.

37   *In re* Appraisal of DFC Glob. Corp., C.A. No. 10107, 2016 WL 3753123, at *20 n.230 (Del. Ch. July 8, 2016); *see* DFC Glob. Corp. v. Muirfield Value Partners, L.P., 172 A.3d 346, 367 (Del. 2017). The acquirer in *Dell* was also a private equity fund, and since neither the Court of Chancery's opinion nor the supreme court's discusses synergies or a reduction in the deal price because of them, presumably there too the acquirer did not argue that the deal price impounded any synergies.

was no MNPI that could have increased the unaffected market price.[38] In cases where neither assumption applies, which is the better indicator of fair value, the unaffected market price or the (much higher) deal price? To answer this question, we have to start with the general problem of why, if the ECMH is correct, corporate acquisitions are commonly concluded at deal prices so much greater than market prices.

III.   COMMON EXPLANATIONS FOR WHY THE DEAL PRICE MAY EXCEED THE UNAFFECTED MARKET PRICE

Besides synergies and MNPI, there are several well-known explanations for deal prices exceeding unaffected market prices. Back in the 1980s, two common explanations were the misinvestment theory and the market noise theory.[39] According to the misinvestment theory, managers (perhaps because they enjoy empire building) tend to reinvest the company's earnings, even when the only available projects have risk-adjusted expected returns that are below what investors could obtain in the market if the earnings were returned to them.[40] Aware of this, rational investors discount the company's shares accordingly. The misinvestment theory is thus consistent with the ECMH: market prices are in fact accurate, given how managers can be expected to behave. Deal prices are higher than market prices because, once self-interested managers are replaced, the company will produce higher cashflows and so really be worth more, a fact reflected in higher deal prices. The misinvestment theory is thus actually just an agency cost theory; it is a particular version of the idea, which goes back to Manne,[41] that self-interested and shirking managers mishandle the business, and this drives down the stock price.

The market theory is quite different. On this account, noise traders sometimes overwhelm rational investors and push down market prices, which creates an opportunity for an acquirer, who values the company just like other rational investors, to acquire the company on the cheap.[42] On this theory, market prices are often irrationally low, and deal prices are closer to the intrinsic value of the company. Nowadays, this theory would usually be presented in behavioral economic terms: traders, like all human beings, are subject to various cognitive biases, and these sometimes combine to produce irrationally low market prices.[43] Of course, this account is clearly incompatible with the ECMH, indeed flagrantly so, as it implies that the true value of an acquired company must be at least a little above the deal price, which is

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38   *Fir Tree Value Master Fund, LP v. Jarden Corp.*, 236 A.3d 313, 321–22 (Del. 2020).

39   Reinier Kraakman, *Taking Discounts Seriously: The Implications of "Discounted" Share Prices as an Acquisition Motive*, 88 COLUM. L. REV. 891, 892 (1988).

40   *Id.* at 892, 897–98.

41   *See* Henry G. Manne, *Mergers and the Market for Corporate Control*, 73 J. POL. ECON. 110, 112 (1965).

42   Kraakman, *supra* note 39, at 892, 898–99.

43   *E.g.*, Lynn A. Stout, *The Mechanisms of Market Inefficiency: An Introduction to the New Finance*, 28 J. CORP. L. 635, 659–60 (2003).

commonly thirty to fifty percent above the market price. All the evidence in support of the ECMH,[44] as well as all the reasons undermining behavioral economics generally,[45] support discounting such theories.

Another theory, common especially among practitioners, is that while the unaffected market price is the price of just a single share or small number of shares, the deal price is the price for all the shares, or at least enough to exercise control, and control has a value of its own. The deal price is thus higher than the unaffected market price because it includes this *control premium.* The intuition here is that the bundle of rights associated with a share of stock can be separated into economic rights, which are the same per share regardless of the number of shares owned, and control rights, which increase in value per share with the number of shares owned. But despite the long pedigree of this idea, it is clearly inadequate, at least standing alone, to explain why deal prices are higher than market prices. For, if control is valuable, it is not valuable in and of itself,[46] but only if it can be monetized in some way or other. The most obvious way to monetize control is to operate the business in a manner that produces larger free cashflows than would otherwise have been produced, either through synergies or just more adroit management, which is really just another form of synergy. The control premium explanation thus collapses into other possible explanations.

Yet another explanation is that acquirers systematically overpay for targets. Some versions of this explanation attribute the overpayment to the self-interestedness of acquiring managers (they hope to extract more lucrative compensation packages running a larger company), and others to their stupidity (they fall victim to optimism bias, and this leads them to overpay). There is some empirical evidence to support this hypothesis, at least for strategic buyers,[47] though it passes credulity that the entire difference between deal prices and unaffected market prices could be explained in this way.

Like the explanations recognized in *DFC, Dell,* and *Aruba* based on synergies and on acquirers having access to MNPI, all of the theories presented here (even the market noise theory, if we suspend belief in the ECMH) are likely true *in some cases.* Moreover, most of the explanations are mutually compatible, and so in any particular case several of the explanations may be applicable simultaneously. Clearly, however, in any particular case, not all of the theories will apply, and often several will not; it is easy to imagine cases where none would. If these were the only explanations, it seems implausible

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44 *See generally* Jonathan Macey & Joshua Mitts, *Asking the Right Question: The Statutory Right of Appraisal and Efficient Markets,* 74 BUS. LAW. 1015 (2019).

45 *See generally* MARIO J. RIZZO & GLEN WHITMAN, ESCAPING PATERNALISM: RATIONALITY, BEHAVIORAL ECONOMICS, AND PUBLIC POLICY (2020).

46 Except perhaps in highly unusual businesses where the individual in control enjoys special personal benefits. Conrad Black, for example, famously said that whoever owned the *Telegraph* could have dinner with the Queen. *See* Hollinger Inc. v. Hollinger Int'l, Inc., 858 A.2d 342, 383–84 (Del. Ch. 2004); *see also* DFC Glob. Corp. v. Muirfield Value Partners, 172 A.3d 346, 369 n.118 (Del. 2017).

47 *See* Ulrike Malmendier, Enrico Moretti & Florian S. Peters, *Winning by Losing: Evidence on the Long-Run Effects of Mergers,* 31 REV. FIN. STUD. 3212 (2018).

that deal prices should diverge from unaffected market prices so consistently and so uniformly. The ubiquity and uniformity of the phenomenon call for some general explanation that would apply in virtually all cases and in virtually all cases explain a significant excess of deal price over unaffected market price. As it happens, there is such an explanation.

IV. DOWNWARDLY SLOPING DEMAND CURVES: THE BEST EXPLANATION

The required explanation exists if we assume that, as with other commodities, the demand curve for shares of a company's stock is downwardly sloping.[48] That is, even when all investors have the same information about a security, and even if they all value it in accordance with accepted principles of corporate finance by applying a discounted cashflow model, they will nevertheless tend to reach somewhat different judgments about its value.[49] Anyone familiar with real attempts to value a real company knows that the exercise requires a tremendous number of difficult judgments,[50] the results of which are certainly not dictated precisely by the available information, with the result that, as Chancellor Chandler famously said, "[t]he value of a corporation is not a point on a line, but a range of reasonable values."[51] This is why investment bankers asked to value a company produce not a single number as the true value but a valuation range that they are prepared to argue is reasonable.

But if different investors assign different values to a share of stock, then "the price of a share for purposes of the trading market is established by the lowest-valuing current shareholder or, stated another way, the highest-valuing potential shareholder."[52] In other words, the market price is the equilibrium price resulting from all market participants valuing the security and then buying and selling it accordingly. Those who value the security more highly will buy the security, and those who value it less highly will sell it, the observed trading price at a given time reflecting a transaction between the marginal buyer and the marginal seller. As new information hits the market, all investors will revalue the security in light of the new information, perhaps revising their estimate of its value, and will then buy or sell accordingly until a new equilibrium is established.

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48   *See* Richard A. Booth, *Discounts and Other Mysteries of Corporate Finance*, 79 CALIF. L. REV. 1053, 1055 (1991); Stout, *supra* note 20, at 1239.

49   The assumption in the text that different investors value the stock differently can explain why the market-demand curve for the shares is downwardly sloping. Additional highly realistic assumptions, such as that investors have limited funds and want to hold diversified portfolios, can explain why each individual investor's personal demand curve for a stock is downwardly sloping.

50   For example, in *Dell*, just the cashflow projections used in the discounted cashflow model involved more than 1100 inputs. *See* Dell, Inc. v. Magnetar Glob. Event Driven Master Fund Ltd., 177 A.3d 1, 38 (Del. 2017).

51   Cede & Co. v. Technicolor, Inc., No. CIV.A. 7129, 2003 WL 23700218, at *2 (Del. Ch. 2003).

52   Booth, *supra* note 48, at 1058.

The assumption that different investors value a security differently immediately explains why deal prices are consistently much higher than market prices. A purchaser of a small number of shares on the open market need pay only a price high enough to induce the current shareholder who values the shares the least to part with his shares. As a purchaser buys more and more shares, however, he has to offer higher and higher prices to induce shareholders with higher and higher valuations of the shares to sell.[53] A purchaser who wants to acquire the company must offer a price that will induce at least a majority of the shares to sell, i.e., enough to approve a merger.[54] Since the acquirer generally wants to make sure the deal will close, it will likely be willing to offer a price that will induce a fraction of the shares aggregating considerably more than a simple majority to sell. In other words, the purchaser of a small number of shares on the open market has to offer a price that only the marginal shareholder finds attractive. The acquirer of the company has to offer a price that a large majority of all the current shareholders finds attractive. The deal price will thus, of course, be well in excess of the unaffected market price.

This entirely realistic, highly intuitive idea was and to some extent still is controversial.[55] Most financial models, including the capital asset pricing model (CAPM),[56] assume that all investors assign the same value to all securities,[57] that is, they assume homogenous expectations among investors. This assumption makes the mathematics involved in such models considerably simpler, but it is possible to build so-called heterogenous expectation models, and such models have existed for decades.[58] Indeed, most models assuming homogenous expectations can be generalized to allow for heterogenous expectations. The homogenous expectations assumption of the CAPM, for example, can be relaxed to produce a generalized equilibrium model known as the popularity asset pricing model (PAPM).[59] Moreover, heterogenous expectation models do well in explaining certain market phenomena that

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53   Stout, *supra* note 20, at 1235–37.

54   For long-form mergers, see DEL. CODE ANN. tit. 8 § 251(c) (2020); for medium-form mergers, see *id.* § 251(h).

55   *See* Eugene F. Fama & Kenneth R. French, *Disagreement, Tastes, and Asset Prices* (Ctr. for Rsch. in Sec. Prices, Working Paper No. 552, Tuck Bus. Sch., Working Paper No. 2004–03, 2005), https://papers.ssrn.com/sol3/abstract_id=502605.

56   *See* John Lintner, *The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets*, 47 REV. ECON. & STAT. 13 (1965); William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk*, 19 J. FINANCE 425 (1964); *see also* Stout, *supra* note 20, at 1239–44.

57   Stout, *supra* note 20, at 1235–37.

58   *See* J. Michael Harrison & David M. Kreps, *Speculative Investor Behavior in a Stock Market with Heterogenous Expectations*, 92 Q.J. ECONOMICS 323 (1978).

59   *See* Thomas M. Idzorek, Paul D. Kaplan & Roger G. Ibbotson, The Popularity Asset Pricing Model 2 (Dec. 7, 2020) (unpublished manuscript) (https://papers.ssrn.com/sol3/abstract_id=3451554).

traditional models cannot, such as bubbles.[60] Critically, heterogenous expectations models generally assume that all investors are acting rationally as well, even though their rationality is bounded. Even the ECMH has a heterogeneous-expectations version. Under heterogenous expectations, a market is semistrong informationally efficient if all information is quickly assimilated by investors, each updating his valuations of securities, and, based on their updated heterogenous expectations, buyers and sellers quickly establish a new equilibrium price. Since true fundamental values are unknowable, fundamental value efficiency is always a problematic concept, but assuming heterogeneous rather than homogeneous expectations makes the claim that securities markets are fundamental-value efficient more plausible rather than less, for the claim becomes the proposition that the equilibrium price resulting from a large number of informed, rational investors trading each on his own valuation is likely to be a better estimate of fundamental value than any one investor's estimate.

V.   Unaffected Market Price, Deal Price, and Fundamental Value

Although the idea that stocks have downwardly sloping demand curves has been discussed in the law reviews for at least thirty years and in the financial literature for even longer, Delaware courts have never seriously considered this idea, much less its implications for determining fair value in appraisal proceedings.[61] The Delaware Supreme Court's opinion in *Jarden*, however, comes very close. In that case, it was crucial to the court's holding that no MNPI existed that would cause the deal price to exceed the market price. The stockholder argued that such information must have existed because the insiders and outsiders valued the company differently; the Delaware Supreme Court rejected that argument, saying that although all the parties had all the same information, they nevertheless formed different opinions based on that information as to the value of the company.[62] This is precisely the heterogeneous expectation assumption.

Let us assume, then, that Delaware courts come to accept the idea that stocks have downwardly sloping demand curves and this is the primary reason in most cases that the deal price greatly exceeds the unaffected market

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60   *See* José A. Scheinkman & Wei Xiong, *Overconfidence and Speculative Bubbles*, 111 J. Pol. Economy 1183, 1184 (2003).

61   To my knowledge, the only time Delaware courts have adverted to the idea was in *Mendel v. Carroll*, 651 A.2d 297 (Del. Ch. 1994), where Chancellor Allen lists several explanations for the existence of control premia and cites Lynn Stout's article, *see* Stout, *supra* note 20, for the proposition that control premia may be seen "simply as a function of a downward sloping demand curve demonstrating investors' heterogeneous beliefs about the subject stock's value." *Mendel*, 651 A.2d at 305. The case was not an appraisal action, however, but concerned whether a board had a duty to dilute a controlling stockholder in order to accept a premium merger proposal when the controller did not want to sell. *Id.* at 298.

62   Fir Tree Value Master Fund, LP v. Jarden Corp., 236 A.3d 313, 326–27, 329–30 (Del. 2020).

price. Does this assumption help us choose between the deal price (or deal price minus synergies, when appropriate) and the unaffected market price when both appear to be reliable indicators of fair value?

I begin with the assumption that the value of an asset is how much a willing seller will accept and a willing purchaser will pay, it being understood that the value thus established is a point between the seller's reserve price and the buyer's reserve price determined by exogenous factors.[63] Combining that assumption with the assumption about downwardly sloping demand curves and abstracting from cases in which the target holds MNPI shared with the acquirer yields the following results: *Before the acquirer appears on the scene*, the market price results from transactions between willing sellers and willing buyers of the company's shares that equilibrate the forces of supply and demand. Under such circumstances, therefore, the market price is the value of the shares, for, without an acquirer, all the trades are for relatively small numbers of shares. *Once the acquirer appears on the scene*, however, the acquirer's willingness to purchase the shares at a higher price than the *previous* market price represents a huge increase in demand, and so the old equilibrium is disturbed. With demand now higher, a new equilibrium results *at a higher price*, the deal price. The acquirer should thus be viewed as just one more buyer participating in the single market for the company's shares. The acquirer differs from other purchasers only in degree, not in kind. In other words, the unaffected market price and the deal price are prices *in the same market*, albeit at different times and under different conditions. Once the acquirer appears and affects the market, the deal price just *is* the market price.

A possible objection to this conclusion is that our pre-theoretic notion of value implicitly assumes a transaction between a single seller and a single buyer, which is not the case with the deal price in a public company transaction where there is a single buyer but multiple sellers. On this view, in applying the concept of value in this context we encounter an open-texture problem.[64] This, however, is not the case. Mere multiplicity of sellers does not, without more, make the concept of value go indeterminate. Consider a simpler situation—an acquisition of a private company with several shareholders structured as a stock purchase in which each of the shareholders expressly agrees to sell his or her shares to the acquirer at the same price

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63 *See* DFC Global Corp. v. Muirfield Value Partners, L.P., 172 A.3d 346, 368–69 (Del. 2017); *see also* Huff Fund Inv. P'ship v. CKx, Inc., No. 6844, 2013 WL 5878807, at *1 (Del. Ch. 2013) ("What is the fair value of an asset? For a simple asset—a piece of real property, for instance—it is the market value. If a trustee were to sell property held in trust, such a sale could be challenged by the beneficiary on a number of grounds. It would be odd, however, if the sale were an arms-length, disinterested transaction after an adequate market canvas and auction, yet the challenge was that the price received did not represent 'fair' value.").

64 *See* LUDWIG WITTGENSTEIN, PHILOSOPHICAL INVESTIGATIONS § 80, at 380 (G.E.M. Anscombe trans., 1953); Friedrich Waismann, *Verifiability*, 19 PROC. ARISTOTELIAN SOC'Y SUPPLEMENTARY VOLS. 119 (1945), *reprinted in* LOGIC AND LANGUAGE 117 (Antony Flew ed., 1955).

under a single multiparty contract.[65] Even if (as would almost always be the case) the sellers have different reserve prices, we would not hesitate to say that the deal price in such a transaction is the value of the shares. Hence, although our notion of value is usually applied in cases where there is a single seller and a single buyer, that assumption is not critical to the application of the notion.

What is critical is that the price of identical assets valued by the same parties be the same. To take an extreme example, imagine that a seller sells two identical assets, whether shares of stock or some physical assets, to a single buyer in a single transaction, but that the parties agree to different prices for the two assets. If such a thing happened, we would tend to think that one or both parties was being irrational, and we would search for some special explanation. For example, the seller might have had different tax bases in the two assets and so, after taxes, would have realized different profits on the two sales; the buyer could have successfully negotiated to share in the greater profits on the item in which the seller had the higher basis by paying a lower price for that item. Absent some such explanation, however, we would not know how to apply our notion of value to the assets in question. Each of the two prices would have an equal claim to be the value of the assets, and so neither can be unequivocally thought to be *the* value of the assets.[66]

But if what is critical to our notion of value is that the price of identical assets valued by the same parties be the same, then clearly there is no danger of the concept breaking down in the context of a corporate acquisition. The unaffected market price is the value of the shares as determined by one pair of buyers and sellers, and the deal price is the value of shares at a later time determined by a different pair of buyers and sellers. As we saw above, the difference between the unaffected market price and the deal price is just a change in the market price as market conditions evolve.

All that said, there is one deep reason why there may seem to be a paradox surrounding the discrepancy between the unaffected market price and the deal price. The paradox concerns the "true" or "real" fundamental value of a company's shares over and apart from what anyone takes that value to be. To see how the paradox rises, recall that we have in this Essay relaxed the homogeneous expectations assumption, and this makes it perfectly clear that the price in a transaction between a willing seller and willing buyer is based on their respective—and generally different—estimates of the fundamental value of the shares, in particular their beliefs about the present value of the

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65   *E.g.*, COMM. ON NEGOTIATED ACQUISITIONS, AM. BAR ASS'N, MODEL STOCK PURCHASE AGREEMENT WITH COMMENTARY 1–3 (1995).

66   More commonly, when we observe different parties buying and selling what we take to be identical assets at different prices, we normally feel that this is to be explained by, for example, differences between the local markets in which the parties operate, imperfect knowledge on the part of one or more parties, the presence of subjective values (as described below in the text), and so on. If all such explanations fail, we think we have identified an arbitrage opportunity, a genuine irrationality in the market that rational profit maximizers will exploit.

future cashflows that an owner of a share will receive. In this context, if we allow ourselves to start thinking about the "true" or "real" value of the shares as being the present value of *the actual cashflows that will exist in the future*, regardless of what anyone thinks about them today, then there is a clear distinction between this true or real fundamental value and the "values" we read off transactions in the present. The latter are estimates formed by particular people about the former, which is a reality existing independent of these estimates and independent of the beliefs of all human beings.

But now let us for a moment reinstate the homogeneous expectations assumption, unrealistic as it may be. Under that assumption, everyone's estimate of the true or real fundamental value is the same. Hence, it is extremely easy to identify that single estimate with the reality of which it is an estimate: if, on the basis of the available information, everyone agrees that the value of a share of the company's stock is $100 and there is no reasonable basis for thinking it is anything other than $100 per share, then it is easy to conclude that the fundamental value of a share just *is* $100. That is a clear mistake, of course, and everyone realizes it is a mistake when we remember that informational efficiency is very different from fundamental value efficiency. Nevertheless, people *do* sometimes make this mistake, and it is very easy to fall into the mistake unconsciously. It is similar to the mistake of confusing a thing with its name, a mistake that no one ever makes with physical objects but that even famous logicians and mathematicians sometimes make with abstract objects.[67] With something as ethereal as the fundamental value of a security, I think the mistake is very easy to make. That is, just as mathematicians have sometimes confused the *name* of an abstract object with the object itself, I think lawyers and economists have sometimes confused the *single reasonable estimate* of the fundamental value of a security with that fundamental value itself. Once made, this mistake will prove fatal. For, if the market price, the only reasonable estimate of the fundamental value, just *is* the fundamental value of the security, then how could the deal price ever diverge from this price? If the deal price diverges from the market price, then it diverges from fundamental value. When that happens, the mind immediately leaps to explanations involving synergies, MNPI, and so forth, and when, as often happens, such explanations are patently inadequate, there appears to be an air of paradox about the deal price being so high—not so much because it is diverging from the market price of the shares but because it appears to diverge from *the fundamental value* of the shares. Any air of paradox about the divergence of the unaffected market price and the deal price vanishes, however, when we cease to identify the fundamental value of the shares with any estimate of that value. This is easy to do when allowing

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67 That is, no one ever confuses Jefferson, who was the second President of the United States and died on the fourth of July in 1826, with "Jefferson," which is a noun containing nine letters and a double consonant, but Korzybski confused the number 1 and the numeral "1" when he argued that "1 = 1" is not strictly true since the first occurrence of the numeral "1" in the sentence is distinct from the second occurrence. *See* W.V. QUINE, QUIDDITIES: AN INTERMITTENTLY PHILOSOPHICAL DICTIONARY 231–33 (1987).

heterogeneous expectations. It is easy to forget to do when assuming homogeneous expectations.

VI. IMPLICATIONS FOR DETERMINING FAIR VALUE IN DELAWARE APPRAISAL PROCEEDINGS

So what does this say about determining fair value in Delaware appraisal proceedings? To be sure, as former Chief Justice Strine said in *DFC*, "the definition of fair value used in appraisal cases is a jurisprudential concept," by which he meant that it "has certain nuances that neither an economist nor market participant would usually consider when either valuing a minority block of shares or a public company as a whole."[68] Key among these nuances is that the statutory language requires excluding from the fair value of the shares "any element of value arising from the accomplishment or expectation of the merger" and so the value of any synergies (including any reduction of agency costs) is impounded into the deal price.[69]

As Vice Chancellor Laster pointed out in *Aruba*, however, estimating the total synergies generated by a business combination is highly uncertain, and estimating the portion of these synergies captured by the target is even more uncertain.[70] In reversing the Court of Chancery in *Aruba*, the Delaware Supreme Court wholly failed to address this point. In reality, although deal prices are easy to ascertain, deal prices less synergies are not. Unaffected market prices, however, are always easy to ascertain. Should we not, then, identify fair value for purposes of section 262 with the unaffected market price on the basis of judicial convenience, at least when there is no MNPI that would show that the market price was too low?

That is essentially the argument in a recent article by Macey and Mitts.[71] One response is that their concession about MNPI undermines their position. That is, there may be more MNPI in the world than Macey and Mitts allow,[72] and estimating its value is just as difficult as estimating the value of

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68 DFC Glob. Corp. v. Muirfield Value Partners, L.P., 172 A.3d 346, 367 (Del. 2017).

69 DEL. CODE ANN. tit. 8 § 262(h) (2020).

70 *See* Verition Partners Master Fund Ltd. v. Aruba Networks, Inc., C.A. No. 11448, 2018 WL 922139, at *53–55 (Del. Ch. 2018).

71 Macey & Mitts, *supra* note 44.

72 Macey and Mitts think cases in which there would be MNPI are rare. *Id.* at 1038. If MNPI means clearly articulable facts that are likely to move the market price, as with the earnings numbers in *Aruba*, they are correct. But even when such information is not at issue, there are good reasons that acquirers spend millions of dollars conducting due diligence on materials that targets disclose to them only under confidentiality agreements. One reason is that, absent such diligence, people often perceive risks that, with greater information, they become more comfortable discounting (and lower risks mean a higher price). Another reason is that, in many cases, reaching a complex judgment about future cashflows requires reviewing not a small number of particularly dramatic facts but a very large number of mundane ones that could never be disclosed publicly (they would have to be vetted for Rule 10b-5 purposes), such as reviewing huge numbers of customer contracts. The idea that, if MNPI exists, a company can simply disclose it to the market, has long been a dogma of academics, *see* Frank H. Easterbrook & Daniel R. Fischel, *The Proper Role of*

the synergies impounded into the deal price. In other words, both deal prices and market prices are readily observable, but fair value for purposes of section 262 may be *either* the deal price minus synergies, with synergies being hard to estimate, *or* the unaffected market price plus the value of MNPI, with the value of MNPI being hard to estimate. Rather than assume that one of these will generally be easier to compute than the other, why not look at each case as it arises and see which is easier to compute in that case? Since there are generally no synergies in private equity deals,[73] we could rely on the deal price in such transactions, just as the Delaware Supreme Court did in *DFC* and *Dell.* In strategic deals, where there are usually significant synergies, we could rely on the unaffected market price if there was no obvious MNPI involved, as the court did in *Jarden.* If there are both synergies and MNPI involved, the question would become which could be estimated with greater certainty. Depending on the answer, we could use either the unaffected market price plus the value of MNPI or the deal price minus the value of the captured synergies.

But if we assume that shares have a downwardly sloping demand curve, then Macey and Mitts's argument becomes much more problematic. That is, if the demand curve is flat, then the explanation for the deal price being above the market price must lie with synergies or MNPI, and the problem can be resolved as suggested above. But if the demand curve slopes downward, then even when there are neither synergies nor MNPI, the deal price will be well above the market price, and awarding the market price will value the shares based on what the shareholders who value them the least would take for them, not what shareholders who value them the most would take or even what the median shareholder would take. In responding to an article by Choi and Talley,[74] Macey and Mitts recognize this and even suggest a way of trying to uncover the demand schedule for the shares by looking to the sell orders in the liquidity providers' order limit book.[75] If this gave us a reasonably complete picture of the demand curve, then we could, as Macey and Mitts further suggest, compute the weighted average of the values attributed to the shares by the investors holding them and use that value, rather than the unaffected market price, as the fair value of the shares. This is an ingenious suggestion, but Macey and Mitts also correctly identify its severe

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a Target's Management in Responding to a Tender Offer, 94 Harv. L. Rev. 1161, 1168 (1981), but it has always been a fairly absurd one. *See* Robert T. Miller, *The Board Veto and Efficient Takeovers*, 62 UCLA L. Rev. Disc. 90, 90 (2014).

73   Macey and Mitts assume that private equity deals generally involve significant reductions in agency costs, some of which are impounded into the deal price, which means that, just as with synergies in strategic deals, there would almost always be some value difficult to compute that would have to be deducted from the deal price to attain the fair value of the shares. *See* Macey & Mitts, *supra* note 44, at 1037–38. Given that private equity firms themselves have not usually argued for such reductions in the deal price, this attempt to make private equity deals relevantly like strategic deals seems strained to me.

74   Albert H. Choi & Eric Talley, *Appraising the "Merger Price" Appraisal Rule*, 34 J.L. Econ. & Org. 543 (2018).

75   Macey & Mitts, *supra* note 44, at 1053–54.

limitations: limit order data are not generally publicly available, and in any event, only those shareholders who value the shares at or a little above the market price are likely to place limit orders.[76] The whole point of the exercise was to get at the valuations of shareholders whose valuations of the shares are well above the market price, and those shareholders are precisely the ones most unlikely to have placed limit orders to sell.

This leaves us with a conundrum, for as Macey and Mitts observe, there seems to be no other objective way to get at the demand curve for the shares. Perhaps an answer lies in the very nature of the appraisal proceeding itself. That is, the theory behind the appraisal remedy has always been that "the stockholder is entitled to be paid for that which has been taken from him,"[77] which strongly suggests that a stockholder who valued the shares more should be paid more,[78] a point Macey and Mitts accept. But, leaving aside appraisal arbitrageurs gaming the system, a stockholder who incurs the risk and expense of bringing an appraisal proceeding does so only because he honestly believes that the *deal price* was less than the value of his shares.[79] Had he valued the shares at or near the market price, he would have been delighted with the deal price, which is almost always far in excess of the market price, and he would have simply accepted the merger consideration. Hence, shareholders bringing appraisal actions have credibly signaled that they valued the company's shares much more than market participants generally and even other shareholders of the company. Fair value for them, therefore, is likely to be higher rather than lower, and so the deal price minus synergies is very likely a better estimate of the value taken from such shareholders than is the unaffected market price.

This argument can be recast in terms of heterogeneous expectations: given the publicly available information, market participants valued the company's shares and came to different views, with some investors valuing the shares higher and some valuing them lower. The result of this process was the unaffected market price, an equilibrium between the investors who valued the shares more than that price and bought and the investors who valued the shares less than that price and sold. The shareholder seeking appraisal was among the investors who valued the shares more, probably much more, than the unaffected market price. The acquirer also valued the shares much more than that price. In a dispute between the shareholder and the acquirer about the value of the shares, therefore, it makes little sense to

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76   *Id.*

77   Tri-Continental Corp. v. Battye, 74 A.2d 71, 72 (Del. 1950).

78   Compare how, in a taking, we should want to compensate the property owner even for the subjective value he places on the property over and above its fair market value, provided that we could ascertain that subjective value in an objective manner. *See* Richard A. Epstein, Takings: Private Property and the Power of Eminent Domain 183 (1985).

79   It is possible, of course, that an investor who is not an appraisal arbitrageur could on occasion choose to play the appraisal arbitrage game and seek appraisal even though he believed that the deal price was above the fundamental value of the shares. Such a decision would be a departure from the investor's investment strategy, however, and presumably such cases would be rare.

set the value at the unaffected market price, a price they agree was far too low. It is hard to tell how much each party valued the shares, and it is harder to tell if, had they negotiated a sale, what price, if any, they may have agreed on. But it is easy to see that the deal price (less synergies, as appropriate) is likely to be much closer than the unaffected market price to the values that the parties themselves attributed to the shares.