

The Real Problem with Appraisal Arbitrage

By Richard A. Booth*

In the controversial practice of appraisal arbitrage, activist investors buy up the shares of a corporation to be acquired by merger in order to assert appraisal rights challenging the price of the deal. The practice is controversial because the appraisal remedy is widely seen as intended to protect existing stockholders who are (or will be) forced to sell their shares in the merger. But the real puzzle is why appraisal arbitrage is profitable, given that an appraisal proceeding's goal is to determine the fair price of target shares using the same techniques of valuation used by financial professionals who advise the parties to such deals. Thus, commentators have argued that the profit derives from (1) a free option to assert appraisal rights at any time until target shares are canceled, (2) the award of pre-judgment interest at a too-generous rate, and (3) the use of a too-low supply-side discount rate in the valuation of shares. As this article shows, none of these explanations has merit, but the third may be on the right track in that it has become almost standard practice among appraisal courts to reduce the discount rate for the so-called terminal period beyond five years into the future by the projected rate of inflation plus general economic growth. The fallacy in doing so is that the discount rate implicit in market prices already incorporates these factors because investors demand and expect returns commensurate therewith. Although it may be appropriate to adjust the terminal period discount rate for company-specific growth funded by the plowback of returns at a rate implicit in projected terminal period cash flow, assuming that growth will simply happen in lockstep with the economy as a whole would be incorrect. Thus, awards that are skewed to the high side by erroneous valuation practices likely encourage appraisal arbitrage.

It has become a common practice for activist investors to buy up shares of target corporations to be acquired by merger to assert appraisal rights challenging the price of the deal.¹ This practice, which has come to be known as appraisal arbitrage, is controversial because the appraisal remedy is widely seen as intended to protect existing stockholders who are (or will be) forced to sell their shares in the merger. But the real puzzle is why appraisal arbitrage is profitable, given that the goal of an appraisal proceeding is to determine the fair price of target shares using the same techniques of valuation used by financial professionals who advise the parties to such deals.

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1. For a more detailed description of appraisal procedure, see *infra* note 8.

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In a recent article, Gaurav Jetley and Xinyu Ji argue that Delaware law and the Delaware courts unduly encourage appraisal arbitrage.² They cite three distinct reasons for their conclusion:

1. The Delaware appraisal statute (as interpreted by Delaware courts) permits stockholders who buy shares after a deal is announced (or even approved) to assert appraisal rights, thus effectively granting them a cost-free option to seek a higher price in court.³
2. In practice, the Delaware courts apply a discount rate lower than the rate used by investment bankers and other deal advisors, thus increasing values calculated in appraisal proceedings as compared to prices negotiated in the real world of business.⁴
3. The Delaware appraisal statute provides for the award of pre-judgment interest at the Delaware legal rate of 5% over the FRB discount rate—a rate that is significantly higher than the rate most companies would pay for debt capital and that (accordingly) amounts to a windfall for appraisal petitioners.⁵

The first and third arguments are familiar and have been made by others, although the authors present these points in the more rigorous language of financial economics.⁶ Nevertheless, both arguments are mistaken.

The second argument may be new to those less familiar with financial economics. It may be correct as far as it goes. But it misses a closely related problem that is even more significant: that the Delaware courts routinely *further* reduce the discount rate by the projected rate of inflation in addition to economy-wide growth—growth in gross domestic product (GDP).⁷ As I argue herein, it is this further reduction that is the real problem and that unduly encourages appraisal arbitrage. Although adjusting the terminal period discount rate for company-specific growth funded by the plowback of returns at a rate implicit in projected terminal period cash flow may be appropriate, it is incorrect to assume that growth will simply happen in lockstep with the economy as a whole.

To be clear, there are three big issues intertwined here. One relates to the calculation of value itself and whether appraisal arbitrageurs (arbs) are somehow able to extract more than fair value by taking advantage of flaws in the valuation methods used by the courts. Another is whether the *distribution* of value is fair—whether arbs are able to appropriate an inappropriate proportion of value. A

2. Gaurav Jetley & Xinyu Ji, *Appraisal Arbitrage—Is There a Delaware Advantage?* 71 *BUS. LAW.* 427 (2016).

3. *Id.* at 433–41.

4. *Id.* at 441–49.

5. *Id.* at 452–55.

6. See Charles R. Korsmo & Minor Myers, *Appraisal Arbitrage and the Future of Public Company M&A*, 92 *WASH. U. L. REV.* 1551 (2015) (summarizing scholarship).

7. The most egregious such case is *Gearreald v. Just Care, Inc.*, where the court applied a total 5.5% reduction to the terminal period discount rate. No. 5233-VCP, 2012 Del. Ch. LEXIS 91, at *30–31 (Apr. 30, 2012). Ironically, the appraisal price so calculated was 14.4% less than deal price.

third issue, one that Jetley and Ji (as non-lawyers) expressly eschew, is whether appraisal rights are important: whether they matter to stockholders in the sense that they provide valuable protection from mis-pricing in connection with mergers. That the authors would leave this issue to the lawyers is understandable, but it is central to the resolution of the debate over appraisal arbitrage and is thus unavoidable.

In Parts I through III of this article, I describe the three primary arguments the authors make in the order outlined above. In Part IV, I discuss the broader policy issues of whether appraisal rights should matter to investors and whether appraisal arbitrage constitutes an abuse of such rights. I conclude that appraisal arbitrage may well enhance stockholder value and ultimately facilitate deals. Nevertheless, I also argue that the almost-standard practice of adjusting discount rates for the expected rate of inflation and GDP growth is mistaken and unduly encourages appraisal arbitrage by enhancing appraisal awards.

I. AFTER-ACQUIRED SHARES

Jetley and Ji argue that Delaware practice effectively grants a free option to arbs by permitting stockholders who acquire shares after the announcement of a merger—or at any time before closing—to assert appraisal rights as long as the total number of shares does not exceed the total number voting against the merger (or abstaining from the vote). In other words, the right to seek appraisal may be freely traded just like the underlying stock itself until the deal closes and the stock is canceled.⁸

8. Although commentators tend to cite petitioner acquisition of shares after the record date but before the vote as (potentially) abusive, the law does not appear to preclude a stockholder who demands appraisal from acquiring additional shares even following the vote. Regarding perfection of appraisal rights, Delaware General Corporation Law (DGCL) § 262(d) states that

Each stockholder electing to demand the appraisal of such stockholder's shares shall deliver to the corporation, *before the taking of the vote* on the merger or consolidation, a written demand for appraisal of such stockholder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such stockholder's shares.

DEL. CODE ANN. tit. 8, § 262(d) (2015) (emphasis added). Moreover, the precise number of shares for which appraisal has been demanded is not determined until after the petition for appraisal is filed—which need not be until 120 days following the effective date of the merger—and a hearing is held thereafter. DGCL § 262(g) states the following:

At the hearing on such petition, the Court shall determine the stockholders who have complied with this section and who have become entitled to appraisal rights. The Court may require the stockholders who have demanded an appraisal for their shares and who hold stock represented by certificates to submit their certificates of stock to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with such direction, the Court may dismiss the proceedings as to such stockholder.

Id. § 262(g). On the other hand, DGCL § 262(a) states the following:

Any stockholder . . . who holds shares of stock on the date of the making of a demand . . . with respect to *such shares*, who continuously holds *such shares* through the effective date of the merger or consolidation, who has otherwise complied with [DGCL 262(d)] . . . shall be entitled to an appraisal . . .

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Although this free option does permit arbs to avoid most of the risk of deal failure, the suggestion that arbs may capture the benefit of new information that indicates a higher value for the subject company misconstrues how the appraisal remedy works: It is almost impossible for any information revealed after a merger is announced to affect fair price as determined by an appraisal court.⁹ Under the prevailing discounted cash flow (DCF) approach, valuation is based on cash flow projections prepared by management in the normal course of business rather than in anticipation of litigation (or presumably in connection with merger negotiations since litigation is virtually certain).¹⁰ Although background assumptions underlying such projections may change after the merger announcement but before the effective date, and the parties may even retain the right to back out of the deal based on a material change, nothing can change projections that are required to predate the deal precisely because the avowed goal of appraisal is to compensate dissenters for the value of the shares they owned before the deal became a factor in the mix. Thus, the supposed free option is not likely to have much value or to explain appraisal arbitrage. Similarly, the discount rate, as typically determined under the Capital Asset Pricing Model (CAPM), is based on historical rates of return on common stocks as adjusted for risk and

Id. § 262(a) (emphasis added). Although this language could be read to presuppose that the petitioner(s) will specify the number of shares for which appraisal is demanded at the time the demand is filed, the language of DGCL § 262(d) as quoted above focuses on the stockholder of such shares and not the number of such shares. Moreover, the respondent corporation is in the best position to know the number of shares that do not vote in favor of the merger, which need not be disclosed to appraisal petitioners until 120 days following the effective date of the merger. *Id.* § 262(e). See *In re Transkaryotic Therapies, Inc.*, No. 1554-CC, 2007 Del. Ch. LEXIS 57 at 2–3 (May 2, 2007) (permitting buyers after merger vote record date but *before merger effective date* to seek appraisal as long as the number of shares is no greater than number voting against merger or abstaining and despite possible attraction of speculators). *Accord* Jetley & Ji, *supra* note 2, at 434–35.

Regarding the potential for abuse, acquiring corporations can easily address this risk by contract – by specifying that no more than some given number of shares demand appraisal or be eligible to do so, but it may be impossible under the above quoted provisions to do so without conditioning the merger on a supermajority vote.

Although *Transkaryotic* is often cited as one reason for the emergence of appraisal arbitrage (together with a generous legal rate of interest), the case did not clearly effect much of a change in the law. See *Salomon Bros. v. Interstate Bakeries, Inc.*, 576 A.2d 650, 654 (Del. Ch. 1989) (distinguishing contemporaneous holder requirement for derivative actions from standing to assert appraisal rights). Nor did the practice of appraisal arbitrage emerge immediately thereafter. Thus, what prompted the emergence of appraisal arbitrage is not clear. See Korsmo & Myers, *supra* note 6, at 1553–55. The practice is equally possible under the continually amended Model Business Corporation Act (MBCA) with the probably irrelevant difference that under the MBCA the subject company must pay the petitioner up front (except for shares acquired after announcement of the merger) so as to avoid accrual of some of the interest. See MODEL BUS. CORP. ACT ANN. §§ 13.22, 13.24, 13.25 (2016). Indeed, these MBCA provisions implicitly contemplate the possibility of appraisal arbitrage. Moreover, MBCA § 13.03 requires a stockholder who demands appraisal to do so with regard to all shares owned. *Id.* § 13.03.

9. See *In re DFC Global Corp.*, No 10107-CB, 2016 Del. Ch. LEXIS 103, at *47–50 (July 8, 2016) (relying on preexisting management projections despite changing circumstances during period of negotiations relating to merger).

10. See *LongPath Capital, LLC v. Ramtron Int'l Corp.*, No. 8094-VCP, 2015 Del. Ch. LEXIS 177, at *31–62 (June 30, 2015). Note also that DGCL § 262 does not specify any particular date as of which fair value is to be determined.

company size.¹¹ These factors are thus cast in stone before the deal happens. Nothing disclosed in the period from announcement to consummation can affect projected return or the discount rate applied.

To be sure, in at least one notable case, *Cede & Co. v. Technicolor, Inc.*, the court did rule that new value created after a change in control but before a back-end merger should be considered on the theory that such value belonged to the corporation and thus to holdout stockholders.¹² Moreover, *Technicolor* also effectively addressed the question of *when* to determine the discount rate—what period of time (data) to use when measuring the risk of the subject company—holding that the measure of risk (the beta coefficient) should be based on the volatility of the subject stock during a period unaffected by the deal itself and presumably any changes wrought thereafter.¹³ But neither of these issues has arisen again since they were first addressed in 1990. Bidders (once burnt) are presumably now careful to avoid any change in business strategy before cashing out the minority.

The point, for present purposes, is that almost nothing that happens after a deal is negotiated and announced can change the value of the target company for appraisal purposes. Of course, fraud is always a possibility. In that case, the appraisal proceeding will be supplanted by an action for breach of fiduciary duty (BFD) anyway. But no reported case indicates that such factors have made any difference in appraisal actions.¹⁴

Thus, the idea that Delaware practice provides a free option that encourages appraisal arbitrage is wrong. A call option has value because of the possibility that the underlying stock will increase in value. Accordingly, the value of an option increases directly in proportion to its duration in time. But there is no such possibility in the context of an appraisal proceeding. This appraisal option is just as valuable if it lasts for a day or a year. In other words, the free option the authors describe is free because it has no value as an option. The appraisal price will be what it will be. The court may possibly find that the value of the subject company is higher than the merger price, but this gain does not arise because the value of the subject company has increased. Rather, the gain (if any) arises only because the parties are shown to be wrong (in some sense) about the price they negotiated.

11. See *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497, 514–18 (Del. Ch.), *aff'd*, 11 A.3d 214 (Del. 2010). To be clear, this approach to valuation assumes that market prices are correlated with cash flow—that investors do in fact see cash flow as the best measure of return (as compared to GAAP earnings or EBITDA or other alternatives). As discussed further below, there is good reason to suppose this is correct. But the proposition is difficult to prove, and surprisingly little scholarship addresses this point.

12. *Cede & Co. v. Technicolor, Inc.*, No. 7129, 2003 Del. Ch. LEXIS 146, at *2–6 (Dec. 31, 2003) (opinion by Chandler).

13. *Cede & Co. v. Technicolor, Inc.*, No. 7129, 1990 Del. Ch. LEXIS 259, at *92–101 (Oct. 19, 1990) (opinion by Allen).

14. To be fair, the authors seem to recognize this point in emphasizing the notion that arbs can avoid the risk of deal failure—a risk that clearly does decrease over time. Yet they also argue that values may change (for example) because of oil prices, a drug approval or other earnings surprise, or new information disclosed in the definitive proxy statement. See Jetley & Ji, *supra* note 2, at 437–41.

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In short, the argument confuses time value of money with option value. Theoretically, although arbs can postpone tying up their own money until the day before closing, this does not change the quantum of cash that stockholders have tied up in the aggregate until closing. Indeed, every dollar invested by arbs is a dollar not invested by legacy stockholders.

Nevertheless, it seems somehow unfair (if only to bidders) that Johnny-come-lately arbs should be able to assert appraisal rights, which clearly seem intended to protect target stockholders from having their shares taken in a process akin to eminent domain. Why should an after-acquiring stockholder, who has effectively bought the claim, be allowed to assert it rather than being left with the agreed (and possibly even ratified) merger consideration? Indeed, corporation law prohibits after-acquiring stockholders from maintaining a derivative action because they presumably bought their shares at a price reflecting the alleged wrong against the corporation.¹⁵ Never mind that after-acquiring stockholders will still benefit from any recovery. They just cannot be representative plaintiffs.¹⁶

On the other hand, clearly one who buys a defaulted debt instrument has every right to seek and recover both principal and interest even though the debt instrument may have been bought at a discount.¹⁷ Because appraisal rights are arguably fixed in value before the deal is announced (as discussed immediately above), they would seem quite akin to a debt instrument.

Parts III and IV further discuss the question of whether appraisal claims should be tradable. But the short answer is that arbs provide a valuable monitoring function for target stockholders—indeed, *all* stockholders—by reducing the effective cost of asserting appraisal rights and maximizing stockholder return.

II. DISCOUNT RATE

Jetley and Ji further argue that appraisal arbitrage may be unduly encouraged because the Delaware courts apply discount rates lower than those that financial professionals use in practice.¹⁸ In this regard, the authors are correct, but they understate the problem because they fail to notice a much more important discrepancy.

Specifically, the authors argue that appraisal awards are inflated because the Delaware courts have used the so-called supply-side discount rate rather than the rate typically used by deal advisors (the historical rate of return).¹⁹ Although the lower supply-side discount rate does result in higher bottom-line values, a

15. See FED. R. CIV. P. 23.1 (governing derivative actions).

16. For a critique of this rule, see J. Travis Laster, *Goodbye to the Contemporaneous Ownership Requirement*, 33 DEL. J. CORP. L. 673 (2008).

17. See, e.g., *In re Chi., Milwaukee, St. Paul & Pac. R. Co.*, 791 F.2d 524, 526–28 (7th Cir. 1986).

18. See Jetley & Ji, *supra* note 2, at 442–49.

19. The historical rate is most often measured by the (arithmetic) average annual total return on the S&P 500—about 12% since 1925. The so-called supply-side rate subtracts out elements of return that seem unlikely to be repeated, resulting in a discount rate of about 11% net of such elements. See IBBOTSON SBBI 2015 CLASSIC YEARBOOK 155–58. Regrettably, the alternative approach, which seeks to estimate future returns based on the *sources* thereof rather than historical averages, has come to be known as *supply-side* ERP. Although the appellation is understandable, it is reminiscent of Reagan-era voodoo economics and the Laffer Curve. Moreover, the supply-side rate is ultimately based on

much more important factor is the further adjustment for projected inflation and GDP growth, which has become almost standard in appraisal proceedings. Thus, the authors miss the primary problem with Delaware appraisal practice that has led to the growth of appraisal arbitration.

REQUIRED RATE OF RETURN

Before drilling down into this issue, we should clarify why the discount rate matters. The basic formula for the value of a perpetual stream of returns (such as from a business) is

$$\text{VALUE} = \text{RETURN} / \text{DISCOUNT RATE}$$

To be clear, this formula is shorthand for adding up the present value of returns for each year in perpetuity. But the formula works only if the return is the same each year, which is why the traditional approach has been to use a historical average of reported returns.

In this formula, the discount rate is the rate of return demanded by investors (the market) given the risk inherent in a business. Thus, it may aptly be called the required rate of return (RRR), which also serves as a subtle reminder of what the formula really means.

For example, if a business is expected to generate a return of \$10M per year and the market requires that return to be 12% in light of the risk inherent in the business, the value of the business may be calculated as follows:

$$\text{VALUE} = \$10\text{M} / .12 = \$83.33\text{M}$$

In contrast, if RRR = 11%, then

$$\text{VALUE} = \$10\text{M} / .11 = \$90.90\text{M}$$

Thus, as RRR decreases, value increases.²⁰

Traditionally, RRR is based on the historical rate of return as measured by the arithmetic average annual total return on the benchmark S&P 500. As the authors note, the supply-side rate reflects the belief of many finance scholars that future equity returns are unlikely to be as generous as they have been in the past (or at least since 1925—the period for which we have reliable data

historical data. There is nothing inherently demand-sided about the alternative. Nevertheless, the name has stuck.

In practice, the discount rate is usually calculated as the sum of the risk-free rate, the equity return premium (ERP) as adjusted for volatility (beta), and a size premium. Because the difference between the raw historical rate and the supply-side rate inheres in the ERP, the authors focus on the estimation of this factor by the Delaware courts (5.20% to 6.14% for an average of 5.70%) and various deal advisors (5.20% to 10.05% for an average of 6.48%). See Jetley & Ji, *supra* note 2, at 442–49. Note that one non-appraisal case, *Rural/Metro*, is omitted here from the range used by the courts because that case was not an appraisal proceeding but rather was the damages phase of an action arising from BFD.

20. Because dividing return by the discount rate is equivalent to multiplying by the reciprocal thereof, a lower discount rate results in a higher multiplier. In short,

$$1/\text{RRR} = \text{MULTIPLIER} = \text{P/E}$$

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based on the S&P 500).²¹ Given that growth in business returns (and thus stock prices) is the ultimate source of economic growth, slower economic growth going forward presupposes slower growth in stock prices and therefore less total return. Other scholars, who seem to be agnostic about the prospects for economic growth, note that about 1% of the 12% raw historical average equity return is attributable to an increase in price/earnings (P/E) ratios that is unlikely ever to recur.²²

Although the prediction of slower growth in the future is largely a matter of opinion, the latter argument for reducing discount rates is well taken. Some of the growth in stock prices since 1925 is attributable to investor diversification (through the growth of mutual funds and other such investment vehicles) and the resulting reduction in risk without a concomitant reduction in return. As Harry Markowitz (the Nobel Prize-winning father of modern portfolio theory) is reputed to have said, diversification is the only free lunch in the market.²³ Thus, stocks became more valuable during this period (particularly since the mid-1970s) because investors found new ways to reduce risk.²⁴ This element of return is a one-time event that cannot recur. To be sure, other one-time events may occur in the future, but this one is definitely unrepeatable. Therefore, the future supply of returns is likely to be lower than the average historical rate. In other words, the market has already eaten the free lunch of diversification.²⁵

ADJUSTING RRR FOR INFLATION AND GROWTH

Although using the supply-side rate results in a roughly 1% reduction in the benchmark discount rate (from about 12% to about 11%), the Delaware courts often reduce this figure still further—by as much as 5.5%—to adjust for projected inflation and growth in returns during the *terminal period*, typically the period beginning after five years and extending indefinitely.²⁶ Because the lump

21. See *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497, 514–18 (Del. Ch.), *aff'd*, 11 A.3d 214 (Del. 2010).

22. See IBBOTSON SBB1 2015 CLASSIC YEARBOOK 155–58.

23. See David Swensen, Guest Lecture in Financial Markets, Open Yale Courses (Feb. 13, 2008), <http://oyc.yale.edu/transcript/976/econ-252-08>

24. See generally Richard A. Booth, *Five Decades of Corporation Law—From Conglomeration to Equity Compensation*, 53 VILL. L. REV. 459 (2008).

25. Ibbotson estimates that about 0.63% of the historical geometric (compound) average 10.1% annual return is attributable to increases in P/E. See IBBOTSON SBB1 2015 CLASSIC YEARBOOK 155–58. Because the historical geometric average of 10.1% translates into about 12.1% as a simple arithmetic average annual return, I round up the effect of increasing P/E to one percent while rounding down the average raw total return to 12% and estimating the total supply-side return at 11%. I make no claim that these are exactly the numbers one should use in a real-world valuation. Rather, I am focusing here on the general relationship and the approximate magnitude thereof solely for purposes of illustration. Note that the total historical return includes the risk-free rate as usually measured by the rate on a twenty-year government bond—which has itself averaged about 5.1% since 1925. Thus, total return varies as interest rates vary. The relevant number is the spread—the ERP of about 7% (raw) or 6% (supply-side). Note also that ERP is adjusted for individual stocks based on the volatility thereof. Accordingly, the effective ERP may be more (for a riskier stock) or less (for a safer stock).

26. See, e.g., *Merion Capital LP v. BMC Software, Inc.*, No. 8900-VCG, 2015 Del. Ch. LEXIS 268, at *44–45 (Oct. 21, 2015) (3.25% growth rate applied to terminal period); *Merion Capital, L.P. v. 3M*

sum value of returns during the terminal period may be more than half of the total value of the subject company (even before any adjustment for inflation or growth), the adjustment for inflation and growth can be equivalent to a 3% or more reduction in the aggregate discount rate.²⁷

To understand the rationale for this adjustment to the discount rate for the terminal period, it is helpful to consider the evolution of Delaware appraisal and valuation practice. Again, the basic valuation formula assumes constant (equal) payments, but returns are often expected to grow. Indeed, businesses that are the subject of appraisal proceedings tend to be promising; otherwise, they would not be such frequent targets of mergers that trigger appraisal. Intuitively, a growing company (one whose returns are expected to increase steadily over time) must be worth more than a company that merely continues to generate the same return.

If returns are expected to grow at a steady rate, the valuation formula can be modified to account for such growth by reducing the discount rate by the growth rate:

$$\text{VALUE} = \text{RETURN} / (\text{DISCOUNT RATE} - \text{GROWTH RATE})^{28}$$

Cogent, Inc., No. 6247-VCP, 2013 Del. Ch. LEXIS 172, at *70–77 (July 8, 2013) (4.5%); Towerview LLC v. Cox Radio, Inc., No. 4809-VCP, 2013 Del. Ch. LEXIS 159, at *92–97 (June 28, 2013) (2.25%); Gearreald v. Just Care, Inc., No. 5233-VCP, 2012 Del. Ch. LEXIS 91, at *30–31 (Apr. 30, 2012) (5.5%); Global GT LP v. Golden Telecom, Inc., 993 A.2d 497, 511–13 (Del. Ch.) (5%), *aff'd*, 11 A.3d 214 (Del. 2010); Prescott Grp. Small Cap, L.P. v. Coleman Co., No. 17802, 2004 Del. Ch. LEXIS 131 (Sept. 8, 2004) (applying range of growth rates in three-step valuation but relying primarily on non CAPM-DCF valuation); Cede & Co., Inc. v. Medpointe Healthcare, Inc., No. 19354-NC, 2004 WL 2093967, at *17 (Del. Ch. Sept. 10, 2004) (applying 3.35% growth rate as somewhat above inflation and after expiration of patents); Lane v. Cancer Treatment Ctrs. of Am., Inc., No. 12207-NC, 2004 WL 1752847, at *12 (Del. Ch. July 30, 2004) (applying 5% growth rate as at least equal to rate of inflation); *In re* Radiology Assocs., Inc. Litig., 611 A.2d 485, 492–93 (Del. Ch. 1991) (applying 5% growth rate). *But see In re* Appraisal of The Orchard Enters., Inc., No. 5713-CS, 2012 Del. Ch. LEXIS 165, at *5 (July 18, 2012) (suggesting that adjustment for growth is inappropriate in the context of DCF valuation but may be implicit in valuation based on EBITDA multiple), *aff'd sub nom.* Orchard Enterprises, Inc. v. Merlin Partners, LP, No. 470, 2013 Del. LEXIS 155 (Mar. 28, 2013). *See also* CSX Transp., Inc. v. State Bd. of Equalization, 472 F.3d 1281, 1291–92 (11th Cir. 2006) (applying 6.3% terminal growth rate in DCF valuation based on projected growth in GDP), *judgment rev'd*, 552 U.S. 9 (2007); *In re* Mirant Corp., 334 B.R. 800, 842–44 (Bankr. N.D. Tex. 2005) (applying 3% terminal growth rate and stating that growth rate must exceed inflation for company to survive); Morton v. C.I.R., T.C. Memo. 1997-166, 1997 Tax Ct. Memo LEXIS 184, at *33–34 (discussing range of terminal growth rates and relationship to changes in working capital).

27. *See* chart in the appendix.

28. This formula—often called the Gordon Dividend Growth Model—is derived from the basic idea that return on a stock comprises dividends and growth in value (capital gains). In other words,

$$(\text{DIVIDEND} / \text{PRICE})\% + \text{GROWTH}\% = \text{RETURN}\%$$

To be clear, the term PRICE here refers to stock price and is thus the same as VALUE in the basic equation. By rearrangement,

$$(\text{DIVIDEND} / \text{PRICE})\% = \text{RETURN}\% - \text{GROWTH}\%$$

By further rearrangement,

$$\text{DIVIDEND} / (\text{RETURN} - \text{GROWTH})\% = \text{PRICE}$$

It is crucial to note that the calculation is based on *dividends*—together with increases in stock value—and not earnings. In effect, the model assumes that returns are measured by cash flow.

Note that the formula assumes that the expected growth rate is constant—as it may be if the company plows back a fixed percentage of available cash into expansion.

Because of the need to estimate a constant amount of both return and growth to use the formula, it was common in the old days (before 1983) to resort to averages for both. But because both returns and growth tend to vary in the real world, using averages is at best an approximation.

As a result of the 1983 landmark decision of the Delaware Supreme Court in *Weinberger v. UOP, Inc.*, permitting appraisal courts (and trial courts in general) to consider any method of valuation generally considered acceptable in the financial community (including DCF), valuation practice changed dramatically.²⁹ Today, returns are projected (and valued) year by year typically for the first five years. Returns thereafter—for the terminal period beyond five years—are valued using the above formula based on a projected average of returns. Because specific projections beyond five years are usually unreliable, and because year-to-year variations in the distant future have relatively small effects on present value that are likely to wash out anyway, using a projected average of returns for the terminal period seems safe.³⁰

To be clear, adjusting for growth during the five-year *projection period* is not necessary because returns as projected year by year may be adjusted directly to reflect any possible expected variation—whether up or down—regarding both increasing inflows and the increasing outflows necessary to generate them. But returns may continue to grow after the five-year projection period. Therefore, experts often argue for adjusting the discount rate for the terminal period downward to reflect such growth as under the traditional formula because there is no way to adjust an average return directly. Indeed, it has been argued that returns *must* grow by at least the rate of inflation for any viable business, lest the business disappear with the passage of time.³¹ In addition, it has been argued that returns can be expected to grow on average by the rate of overall economic growth—as measured by changes in GDP—because growth in returns from business is the source of economic growth (as noted above). Thus, reducing the discount rate for the terminal period by the total of the projected rate of inflation and the projected rate of GDP growth has become almost standard practice in Delaware appraisal proceedings.³² Indeed, the *Dell* appraisal

29. See *Weinberger v. UOP, Inc.* 457 A.2d 701, 712–13 (Del.1983). Note that some commentators refer to the traditional approach as *capitalization* of earnings but seem to object to the use of that term in connection with DCF. Although DCF does eschew the use of averages for the projection period, both methods ultimately do the same thing in reducing future returns to present value. See SHANNON P. PRATT, *COST OF CAPITAL* 24–27 (1998).

30. This lump sum value for the terminal period must itself be discounted to present value because it reflects returns beginning after five years into the future. See *id.*

31. See *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497, 511–13 (Del. Ch.), *aff'd*, 11 A.3d 214 (Del. 2010).

32. See *Gearreald v. Just Care, Inc.*, No. 5233-VCP, 2012 Del. Ch. LEXIS 91, at *30–31 (Apr. 30, 2012).

court even questioned whether the use of a 2% growth and inflation assumption was too low.³³

THE FALLACY OF GENERIC ADJUSTMENT

At first blush, it may seem reasonable to adjust the terminal period discount rate for inflation and general economic growth. But it is a mistake to do so unless projected return is reduced to reflect new investment.

Growth almost always requires (re)investment—the diversion of cash that could be paid out to stockholders, often called *plowback*. For example, a business that wants to increase sales may need to buy more inventory, rent a bigger warehouse, and hire additional employees. In other words, growth does not grow on trees.³⁴

As it turns out, plowback of cash to invest in expansion that is expected to generate the same rate of return as the existing business will have zero effect on the value of a business because the present value of increasing returns is exactly offset by the reduction in cash available to distribute to stockholders. Therefore, the use of cash flow to measure return implicitly controls for growth.

For example, a business that expects to generate returns of \$100 per year, and whose RRR is 10%, is worth \$1000:

$$\text{VALUE} = \$100 / (.10) = \$1000$$

If the business decides to reinvest \$50 per year, it can expect returns to increase by \$5 per year at its ordinary 10% rate of return. That extra \$5 will represent 5% growth in return from \$100 to \$105. But only \$50 will be left to distribute to the stockholders. Therefore, the value of the business with growth is

$$\text{VALUE} = \$50 / (.10 - .05) = \$50 / .05 = \$1000$$

The bottom line is that adjusting the discount rate for ordinary growth—growth from reinvestment of available cash at RRR—is not necessary because it has no effect on value. Rather, diversion of returns to new investment exactly offsets the increase in value from increasing returns.

To be sure, if this business can find opportunities that generate more than a 10% return—and thus more than a 5% increase in return per year—its value will increase faster from increasing returns than from decreasing cash. But such opportunities are rare and fleeting. As the Delaware courts have noted, in the absence of barriers to entry, competition will quickly dissipate the ability to generate returns in excess of the cost of capital.³⁵ Thus, it is fair to presume that

33. See *In re Appraisal of Dell Inc.*, No. 9322-VCL, 2016 Del. Ch. LEXIS 81, at *156 (May 31, 2016).

34. See IBBOTSON SBBI 2011 VALUATION YEARBOOK 50–51, 155–157; RICHARD A. BREALEY, ET AL., PRINCIPLES OF CORPORATE FINANCE 92–108, 308–19, 807–09 (9th ed. 2008); PRATT, *supra* note 29, at 24, 25, 27 (1998).

35. See, e.g., *Cede & Co. v. Technicolor, Inc.*, No. 7129, 1990 Del. Ch. LEXIS 259, at *86 (Oct. 19, 1990) (rejecting generic growth rate for terminal period because opportunities for growth can be expected to dissipate). On the other hand, the *Technicolor* court also rejected the now-standard

growth of this sort is unlikely to persist beyond the projection period in the absence of positive evidence to the contrary. Again, most growth comes from the reinvestment of available cash at an ordinary rate of return. Thus, if one argues that a business can expect to grow faster by other means, the burden should be on the proponent to explain how. Indeed, experts and appraisal courts have often used a three-stage approach to deal with situations in which the subject company reasonably expects returns to grow at a supernormal rate for some time beyond the five-year projection period and then to revert to an ordinary rate of growth. For example, the subject company may own a patent that permits it to capture excess profits (economic rents) for as long as twenty years into the future. But the three-stage approach amounts to a tacit recognition that it is wrong to make any generic adjustment for growth in the terminal period.³⁶

On the other hand, if projected average cash flow for the terminal period builds in an implicit plowback rate—for example, a plowback rate based on the last year of the projection period—the discount rate should be adjusted accordingly. Nevertheless, there is no reason to assume that the company-specific plowback rate in combination with the company-specific discount rate will just happen to generate the projected rate of GDP growth.³⁷ It is true that GDP growth ultimately comes from growth in returns from business (as it is usually measured). But it does not follow that growth in returns from business is spontaneously generated because the economy grows.³⁸ The point is that if we know

small-company premium as speculative and insufficiently explained by scholarship at the time. *Id.* at *98–99. It is tempting to see this ruling as payback for rejecting any adjustment for growth in the terminal period. But in the end, we must take the court at its word. To be sure, a business may be able to raise prices (and profits) without any new investment, but that is because of inflation or market power—not real growth.

36. To be clear, we have no reason to assume that excess returns will be used to finance growth in the interim period. They may be used simply to build up cash. If so, it would be better to adjust return directly (as in the projection period). Confusion about adjusting the terminal period discount rate for growth is partly attributable to failure to grasp fully the difference between GAAP earnings and cash flow as the measure of return. For example, under GAAP, reinvestment of earnings in additional inventory (say) does not constitute an expense because the decrease in one asset (cash) results in an equal increase in another asset (inventory). But the use of available cash to buy additional inventory is quite real for investors because it reduces the potential for cash return now in exchange for cash return in the future. This is easy to see in the near-term projection period where return (cash flow) is calculated expressly by adding up inflows and outflows of cash irrespective of how they may be characterized under GAAP (such as whether ordinary or capital). Thus, no one argues that the discount rate for the projection period should be adjusted for growth because the effects of growth are implicit in the measure of return.

37. Because predictable growth comes only from plowback, projecting cash flow without plowback and using an unadjusted discount rate might be preferable. *Cf.* PRATT, *supra* note 29, at 151 (suggesting that measuring return in inflated dollars, as Ibbotson does, may be confusing). But using the predicted plowback rate for the final year of the projection period (or some average based on the projection period) as the average plowback rate for the terminal period is probably easier and less speculative because it is already implicit in the measure of return for the projection period. Ironically, one simple solution may be to use projected GAAP earnings (plus non-cash expenses) rather than cash flow as the measure of return for the terminal period (together with an unadjusted discount rate) because plowback is baked into GAAP earnings. Incidentally, this also avoids any order-of-operations problem in connection with adjustments for beta and size.

38. To be sure, Ibbotson allows that it can be very difficult to project company-specific plowback and growth and thus suggests that GDP growth may therefore be used as a surrogate precisely be-

the company-specific plowback rate and discount rate, we have no reason to use a projected average GDP growth rate. Aside from the highly speculative nature of GDP growth projections, if company-specific cash flow projections build in some plowback rate, as they almost always do, that plowback rate, in combination with the company-specific discount rate, is far better evidence of the likely growth rate for the subject company.³⁹ Moreover, the plowback rate may itself include an implicit adjustment for inflation, particularly where cash flow projections are extrapolated from past results. In other words, the business may plan to pay a bit more to replace inventory (for example). If so, adjusting the discount rate for expected inflation is entirely appropriate.⁴⁰

The fundamental point that growth requires plowback also addresses the observation by several courts that assuming a growth rate that exceeds the GDP growth rate is always unrealistic because returns from such a business would eventually grow to exceed GDP itself.⁴¹ This *reductio ad absurdum* is intended to make the point that assuming a too-generous growth rate is unrealistic.⁴² But it tends to obscure the more important point that every dollar reinvested is a dollar subtracted from free cash flow and that the reduction in distributions exactly offsets any increase in value (assuming reinvestment at RRR).⁴³ Indeed, it

cause the latter comes from the former. See IBBOTSON SBBI 2011 VALUATION YEARBOOK 50. But it is often relatively simple in a stable (or normalized) business to estimate an average aggregate plowback rate from the difference between projected earnings before depreciation (EBD) and projected cash flow because that number equals changes in working capital plus capital expenditures. See generally BREALEY ET AL., *supra* note 34, at 92–108, 308–19, 807–09.

39. There is only one reported case discussing plowback rate: *In re Ancestry*, No. 8173-VCG, 2015 Del. Ch. LEXIS 21, at *33–40 (Jan. 30, 2015). But see *In re DFC Global Corp.*, No. 10107-CB, 2016 Del. Ch. LEXIS 103, at *47–50 (July 8, 2016) (discussing projection of changes in net working capital).

40. See *In re U.S. Cellular Operating Co.*, No. 18696-NC, 2005 Del. Ch. LEXIS 1, at *64–68 (Jan. 6, 2005) (opinion by Lamb). Business is largely transparent to inflation, which means that returns will be that much higher than would have been expected in the absence of inflation. But protection from inflation is a part of the return investor's demand. Even if I invest in an ordinary bond, the interest I receive is part real interest and part compensation for the inflation that will decrease the value of my principal when it is paid back at maturity. Witness the fact that I can buy treasury inflation protected securities (TIPS) that pay interest at the real rate and augment my principal at the actual inflation rate if I want to avoid the risk of guessing wrong about inflation in the future. To be precise, inflation also affects income return. As with TIPS, where the coupon rate is applied to the adjusted principal amount, S&P 500 earnings are here expressed as a percentage of the index level at year-end. Therefore, inflation in the index level translates into higher dollar returns even though the percentage remains the same. It follows that investors demand a rate of return equal to the risk-free rate that they could get on a bond plus ERP as adjusted for risk. Although authorities disagree about the appropriate tenor of the risk-free rate, they seem largely to agree that adding beta-adjusted ERP to the risk-free rate (and adjusting for size) is the best way to determine the discount rate. See *Merion Capital, L.P. v. 3M Cogent, Inc.*, No. 6247-VCP, 2013 Del. Ch. LEXIS 172, at *52–55 (July 8, 2013) (discussing alternatives of short-term, medium-term, and long-term rates on U.S. government securities).

41. See *Merion Capital, L.P.*, 2013 Del. Ch. LEXIS 172, at *72 (citing BRADFORD CORNELL, CORPORATE VALUATION: TOOLS FOR EFFECTIVE APPRAISAL AND DECISION MAKING 146–47 (1993)); see also *In re Trulia, Inc. Stockholder Litig.*, 129 A.3d 884, 906–07 (Del. Ch. 2016); *Owen v. Cannon*, No. 8860-CB, 2015 Del. Ch. LEXIS 165, at *71–79 (June 17, 2015) (making the same point in a non-appraisal context).

42. The courts (prompted by experts) have made the similar point that a business whose returns do not keep up with inflation will eventually disappear.

43. There is a natural limit to growth by plowback. A business cannot reinvest more cash than it generates (without borrowing). But as a business reinvests each next dollar of cash available, distri-

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reveals some (understandable) confusion about the measure of return used in calculating terminal value. If return is the calculated net of plowback, the rate of growth is what it is. It makes no difference if the rate exceeds the GDP-plus-inflation rate. But if return is assumed to be stated in pre-plowback terms, the ceiling matters.

Finally, the average rate of GDP growth (about 3.38% in real terms since 1931) is significantly higher than the average rate of real growth in stock prices as measured by the S&P 500 (about 2.54%).⁴⁴ Therefore, even if GDP growth does ultimately derive from aggregate growth in returns from business, growth appears to come disproportionately from small and non-corporate business, thus undercutting the rationale for using any such average adjustment.⁴⁵

The bottom line is that using an average GDP rate is a blunt instrument. We have better evidence from the plowback rate implicit in the projection period. Thus, it is difficult to justify the general practice of assuming growth at the GDP rate rather than using company-specific numbers. The argument seems to be that the economy grows because returns grow and that it follows that companies will grow at the same rate as the economy. The fallacy is that a business cannot ordinarily grow without plowback, the rate of growth will depend on the company-specific rate of plowback.

Jetley and Ji may have identified one modest causal factor in the growth of appraisal arbitrage: the use of a supply-side discount rate. But they have missed a much more significant factor: the downward adjustment of the terminal period discount rate for inflation and GDP growth. Because the terminal period accounts for more than half of total value (at discount rates of less than 15%),

butable returns approach zero and the net discount rate also approaches zero. More to the point, at RRR, a business must reinvest every dollar of return to achieve a growth rate equal to RRR.

44. One might think that the average growth rate for corporations should equal the GDP growth rate. See IBBOTSON SBBI 2015 CLASSIC YEARBOOK at 155-57. But Ibbotson finds that 2.22% of the total 9.47% geometric average return (supply-side) is attributable to growth in EPS. In other words, growth accounts for about 22% of total return. Because the 9.47% geometric average translates into about an 11.3% arithmetic average (the market rate of return used for valuation purposes), it follows that about 2.54% of such expected return is attributable to projected growth. But the average real growth in GDP (since 1931) has been 3.38%—almost a full percentage point more than the growth component of return on the S&P 500. Although Ibbotson uses data for the S&P 500 extending back to 1925, the average growth rate for the S&P 500 since 1931 is even a bit lower. Therefore, to adjust discount rates downward by the GDP rate is far too generous. Although it is possible and even likely that small businesses contribute more to GDP growth than the 2.54% S&P 500 average, this is unlikely to account for the difference because index stocks account for about 65% of aggregate market value.

It is also odd to think that, on average, a business will grow at the average rate of GDP and inflation over the very long term and to use that figure as a default estimate for adjusting the terminal period discount rate. If this rate is a ceiling, how can it also be an average? The answer to this puzzle (again) is that the growth rate depends on the plowback rate as to which there is a natural limit (without borrowing).

45. Moreover, it is not clear that a business can grow forever by reinvestment. Even if funds for plowback are available, a business will eventually run out of opportunities for expansion. This is not to say that the economy will not grow in the aggregate because of innovation, as will some companies. But we have no reason to presume that any given business will have such opportunities for free growth. And even if established firms are better able to identify unrelated growth opportunities, it is not clear that such skills give rise to value for which stockholders should be compensated.

the effect of reducing the terminal period discount rate by 5.5% may be equivalent to an overall reduction of 3% or more. This is clearly much more significant than the 0.78% (average) reduction resulting from the use of supply-side estimates that the authors found.⁴⁶

III. PREJUDGMENT INTEREST

The third big point that Jetley and Ji (and others) have made is that awarding pre-judgment interest at the Delaware legal rate—5% over the FRB discount rate—is far too generous because it exceeds the interest rate available to investors from other sources.⁴⁷ Indeed, as of February 2017, a thirty-year US government bond pays only about 3.1% and a BBB corporate bond pays only about 3.7%. Thus, arbs make money while they wait for the appraisal award, often enough to compensate for an award that turns out to be less than the merger price (as sometimes happens).⁴⁸ Thus, it has been suggested that the subject company (or more precisely the acquirer thereof) should have the option of paying petitioners the merger consideration (or a large portion thereof) up front to stop interest from accruing while the appraisal proceeding is pending.⁴⁹

The problem with the foregoing analysis (and the proposed solution) is that it fails to recognize that appraisal petitioners—investors in common stocks—expect average returns of about 11%, the supply-side discount rate. Thus, one may argue that the pre-judgment interest rate should be 11%—or even the discount rate found to be applicable to the subject stock in the appraisal proceeding.⁵⁰

Moreover, whether subject companies (or their acquirers) will choose to pay the merger price up front is unclear, even though they now have the option to do so under the 2016 amendments to DGCL § 262.⁵¹ If the cost of equity capital is 11%, paying 5% for as long as the appraisal proceeding lasts is a good deal for the acquirer. Viewed in this light, the legal rate makes much sense. At current

46. See *supra* note 16 and chart in appendix.

47. See Jetley & Ji, *supra* note 2, at 452–55.

48. See, e.g., Gearreal v. Just Care, Inc., No. 5233-VCP, 2012 Del. Ch. LEXIS 91 (Apr. 30, 2012) (fair value found to be 14.4% less than deal price). But because of the interest award, petitioners realized a gain of 11.7% at the end of the day. Thanks to Jake Noone (VLS 2016) for identifying and analyzing this case.

49. This is, essentially, what the MBCA provides. See MODEL BUS. CORP. ACT ANN. § 13.24 (2016). Ironically (or not), MBCA § 13.25 permits the subject company to withhold advance payment from stockholders who acquire shares after the announcement of the deal. But note that the MBCA does not deny appraisal rights to such stockholders. *Id.* § 13.25.

50. This rate may be a bit too generous because it reflects the arithmetic average annual rate demanded by equity investors, given the volatility inherent in equities. The compound rate—the geometric average return on equities—is about 9.5% supply-side. Because the prejudgment interest rate is fixed—and does not fluctuate with equity returns—the geometric average would seem to be the best measure for the job. This same argument applies *ceteris paribus* in connection with the so-called prudent investor rate that prevailed before the legal rate was made presumptively applicable by statute in 2007. See DEL. CODE ANN. tit. 8, § 262(h) (2015).

51. 80 Del. Laws, c. 265, §§ 8–11 (June 16, 2016). For a summary of these amendments, see Delaware State Bar Association, Council of the Corporation Law Section, *Section 262 Appraisal Amendments* (Mar. 6, 2015).

rates, it effectively splits the difference between short-term rates (now near zero) and the 11% (or so) supply-side discount rate.

On the other hand, one could argue that arbs are not themselves long-term common stock investors and should not be so compensated for the time value of their money. Nevertheless, they have bought the stock they hold from legacy investors and thus should be entitled to the same package of rights such investors enjoy.⁵² If the rights of arbs are curtailed in some way in comparison with the rights of legacy investors, arbs presumably will not be willing to pay as much for such shares, and legacy investors will suffer a bigger haircut if they choose to sell before the merger becomes effective. Other things equal, investors will be left a little worse off and will demand a little more in compensation. As discussed further below, it is understandable that acquirers might want to curtail appraisal arbitrage *ex post*—after a deal is negotiated and ratified. But *ex ante*—before the stockholder vote—it serves them well.⁵³

To be sure, the odds of realizing an appraisal gain may be better than fifty-fifty. If so, the problem lies with the valuation model. But it is difficult to see how a rate of return that is half what the market otherwise pays is more likely to benefit an investor whose money is tied up until payment. The real wonder is that appraisal arbitrage has become such a force at the lower rate.

IV. DEAL PRICE AND STANDARD OF VALUE

In addition to their primary arguments, Jetley and Ji observe that Delaware appraisal practice seems to assume one true price for any given company at any given time, whereas financial professionals subscribe to the idea that fairness is a range of values and that the exact deal price within that range will depend on the parties' negotiating skills.⁵⁴

This is a cheap shot. An appraisal court must ultimately make a decision. Indeed, so too must the parties to a deal ultimately settle on a price to be paid. Although the authors do not say exactly what should be done with their range-of-value point, they seem to suggest that any price within the range should be good enough and thus that the courts should rely on deal price in the absence

52. As discussed more fully in Part IV, arbs may thus be seen as factors (of a sort) who provide a valuable service to target stockholders.

53. Jetley and Ji find an average difference of about 2% between market price and deal price in the period following announcement/approval and closing (based on their own data). See Jetley & Ji, *supra* note 2, at 439. In other words, a stockholder who sells out rather than waiting to receive the merger consideration suffers about a 2% discount on average. (Whether their figure is based on total market price or a percentage of the premium is unclear.) This would seem to be a reasonable price to pay to avoid waiting for one's money as well as the risk of deal failure.

54. The authors appear to derive some pleasure from explaining how point estimates can be misleading: the *flaw of averages*, as Ibbotson calls it. See IBBOTSON SBB1 2015 CLASSIC YEARBOOK 147. But this point is well known in the law. See *Wielgos v. Commonwealth Edison Co.*, 892 F.2d 509, 514 (7th Cir. 1989); see also MODEL BUS. CORP. ACT ANN. 13. cmt. (2016) ("Modern valuation methods will normally result in a range of values, not a particular single value."); AM. LAW INST., PRINCIPLES OF CORPORATE GOVERNANCE § 7.22 (1992) (same).

of any good reason not to do so. But they also recognize that to do so would largely obviate the statutory appraisal remedy.

What the authors do not grasp is that the standard of value in an appraisal proceeding arguably differs from the standard applicable in other matters, such as BFD cases. Appraisal is a remedy for dissenting stockholders who are by definition *unwilling* sellers. Thus, the often-cited willing-seller–willing-buyer test does not apply, which also may explain why the statutory standard of value in appraisal is *fair value* and not *fair market value*. In other words, the authors fail to distinguish between appraisal proceedings and fairness litigation where the issue is actually whether the target has bargained for a price that is good enough.⁵⁵

To be sure, the courts sometimes lose track of this distinction. For a court to collapse an appraisal proceeding and a BFD case into one matter on the theory that the price is the price is not uncommon.⁵⁶ But for the courts to note that fair value is different from fair market value is also common.⁵⁷ Although the two may possibly be the same in some cases, the fact remains that the standards are different. Therefore, it must be at least *possible* that the resulting valuation will differ.⁵⁸

55. To wit, the authors include *Rural/Metro* in their small sample of cases surveying ERPs applied by Delaware courts, even though that was not an appraisal case. Interestingly, the *Rural/Metro* court appears to apply the highest ERP in the sample. *In re Rural/Metro Corp. Stockholders Litig.*, No. 6350-VCL, 102 A.3d 205 (Del. Ch. 2014).

56. See *In re Sunbelt Beverage Corp. Shareholder Litig.*, No. 16089-CC, 2010 Del. Ch. LEXIS 1, at *16–20 (Jan. 5, 2010) (conflating appraisal and BFD). In defense of conflation, *Weinberger* does provide that a court may deal with any BFD it may discover in the course of an appraisal proceeding. See *Weinberger v. UOP, Inc.*, 457 A.2d 701, 714–15 (Del. 1983). Moreover, the Delaware courts have also invented the hybrid quasi-appraisal proceeding in which all stockholders may join, irrespective of how they voted. See *Berger v. Pubco Corp.*, 976 A.2d 132 (Del. 2009); see also *Weinberger v. UOP, Inc.*, 457 A.2d 701, 714–15 (Del. 1983) (describing transitional approach mandated thereunder as quasi-appraisal).

57. See *In re Appraisal of Dell Inc.*, No. 9322-VCL, 2016 Del. Ch. LEXIS 81, at *57–64 (May 31, 2016) (opinion by Laster noting that fair value is a jurisprudential concept and that fair market value (FMV) is not the standard in appraisal); *In re Emerging Communications, Inc. Shareholders Litig.*, No. 16415, 2004 Del. Ch. LEXIS 70, at *35–43 (May 3, 2004).

58. Moreover, the standard of value may also differ among BFD cases. If the target company will be sold or broken up, the target board must bargain for the highest price reasonably available, which may include a premium for control or synergy gains. See *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173 (Del. 1985). On the other hand, in a cash-out merger with a controlling stockholder, where there is no reason to think any such gain is possible, the standard of value is one of simple entire fairness. See, e.g., *In re MFW Shareholders Litig.*, 67 A.3d 496, 499–504 (Del. Ch. 2013), *aff'd sub nom.* *Kahn v. M&F Worldwide Corp.*, 88 A.3d 635, 642–46 (Del. 2014). Indeed, one could argue that the highest price reasonably achievable might be one that reflects a discount for minority status or even marketability if the standard is truly FMV. But the fact that minority stockholders may demand appraisal would seem to militate for fair value as the minimum.

Other standards of value may be applied when circumstances require. For example, in egregious cases the court may award rescissory damages—the monetary equivalent of rescission—the (constructive) value of the target company as of the date of judgment. In other words, rescissory damages are essentially the same thing as disgorgement of gain by the buyer/survivor in the merger. It is not entirely clear when rescissory damages will apply. Again, we can trace the remedy back to *Weinberger*. The *Weinberger* court reaffirmed that rescissory damages may be an appropriate remedy in cases in which the entire fairness standard has not been met but rejected the proposition that rescissory damages should be the *exclusive* remedy in such cases. *Weinberger v. UOP, Inc.*, 457 A.2d 701, 703–04 (Del. 1983). See *Lynch v. Vickers Energy Corp.*, 429 A.2d 497, 507–08 (Del. 1981). Where the line

Nevertheless, as Jetley and Ji note, consistent with their implicit recommendation, Delaware appraisal courts have indeed begun to rely more heavily on deal price.⁵⁹ In fact, it can be argued that deal price should be *presumed* fair for appraisal purposes if it is shown that the negotiation process was *fully fair* under the standard enunciated by the Delaware courts in 2014.⁶⁰ As I have argued elsewhere, target stockholders cannot reasonably expect any better price in such cases.⁶¹ But the Delaware Supreme Court disagrees that any such presumption of fairness can apply in an appraisal proceeding precisely because the statute provides for dissenter rights. The statute says that a dissenting stockholder has a right to have a court determine the value of target shares.⁶²

of demarcation falls remains unclear. It could be that *scienter* must be shown or that it must appear that the deal would never have been done at all if the truth had been known, or the distinction may fall somewhere else. See generally *In re Orchard Enterprises, Inc.*, 88 A.3d 1 (Del. Ch. 2014). Admittedly, the award of rescissory damages may be seen more as a matter of *when* the valuation standard is applied. But it remains a different standard.

Still other standards of value apply in other types of cases. See, e.g., *Klang v. Smith's Food & Drug Ctrs., Inc.*, 702 A.2d 150, 154–56 (Del. 1997) (using comparable transaction or comparable company standard rather than book value to determine value for purposes of distribution); *Quadrant Structured Prods. Co. v. Vertin*, No. 6990-VCL, 2015 Del. Ch. LEXIS 266, at *48–56 (Oct. 20, 2015) (using potential sales price (FMV) in context of fraudulent transfer case to determine solvency of transferor); see also *Weinberger*, 457 A.2d at 712–13 (Del. 1983) (holding that Delaware Block Method should no longer be exclusive method used in appraisal proceedings, thus suggesting that it might sometimes still apply).

Note that prejudgment interest (which presumably does not apply to rescissory damages) may sometimes result in a larger award, depending on the rate (as discussed above) and the interim performance of subject company assets. Cf. UNIF. P'SHIP ACT § 42 (UNIF. L. COMM'N 1997) (permitting retiring partner to elect interest or profit share). But see REVISED UNIF. P'SHIP ACT see § 701 cmt. (UNIF. LAW COMM'N 2013) (eliminating right of former partner to share profits).

59. See *Longpath Capital, LLC v. Ramtron Int'l Corp.*, No. 8094-VCP, 2015 Del. Ch. LEXIS 177, at *83–86 (June 30, 2015) (relying on deal price for appraisal purposes but deducting value of synergies); *In re Ancestry*, No. 8173-VCG, 2015 Del. Ch. LEXIS 21, at *73–75 (Jan. 30, 2015); *Huff Fund Inv. P'ship v. CKx, Inc.*, No. 6844-VCG, 2013 Del. Ch. LEXIS 262, at *36–48 (Oct. 31, 2013), *aff'd*, 2015 Del. LEXIS 77; *Union Illinois 1995 Inv. Ltd. P'ship v. Union Fin. Grp., Ltd.*, 847 A.2d 340, 355–64, 357 (Del. Ch. 2004) (deal price may be used “so long as the process leading to the transaction is a reliable indicator of value and merger-specific value is excluded”). Although deal price is sometimes referred to as *market price*, the courts have been adamant about not relying on market price as derived from trading prices. On the other hand, the courts have sometimes relied on the prices accepted by insiders in private block sales—but usually only as a reality check. See *Cede & Co. v. Technicolor, Inc.*, No. 7129, 1990 Del. Ch. LEXIS 259, at *86 (Oct. 19, 1990). But see *In re Sunbelt Beverage Corp. S'holder Litig.*, No. 16089-CC, 2010 Del. Ch. LEXIS 1, at *19–32 (Jan. 5, 2010) (rejecting internally agreed buyback price as stale).

60. See generally *In re MFW Shareholders Litig.*, 67 A.3d 496 (Del. Ch. 2013), *aff'd sub nom. Kahn v. M&F Worldwide Corp.*, 88 A.3d 635 (Del. 2014). The phrase *fully fair* is my own invention. The phrases *entirely fair* and *entire fairness* are terms of art that mean something less or at least something different. See *Weinberger v. UOP, Inc.*, 457 A.2d 701, 711 (Del. 1983). In other words, I use the phrase *fully fair* here to describe a deal that has met the exacting standards set forth in *M&F Worldwide Corp.* and is thus protected by the business judgment rule.

61. See Richard A. Booth, *Majority-of-the-Minority Voting and Fairness in Freeze-Out Mergers*, 59 VILL. L. REV. ONLINE: TOLLE LEGE 87 (2014).

62. See *Golden Telecom, Inc. v. Global GT LP*, 11 A.3d 214, 217–19 (Del. 2010). It is a bit odd that the trend toward reliance on deal price seems (if anything) to have strengthened after *Golden Telecom*. But appraisal courts have been careful to base such holdings on case-by-case findings that deal price is the best indication of value. Thus, the Delaware Supreme Court's rejection of a presumption of fairness seems to have been interpreted as establishing a bright line that cannot be crossed but can safely be approached.

PRESUMPTION OF FAIRNESS RECONSIDERED

On reflection, there are good reasons not to presume that deal price is fair price (for appraisal purposes), even in a fully fair transaction.

One problem is that the negotiated price may be too high. It may include a share of the merger gain, especially where target stockholders are well represented.⁶³ But a buyer willing to pay the merger price to all target stockholders should have at least the option of doing so in a fully fair deal rather than being put to the expense of an appraisal proceeding. Then again, the buyer may also want the chance to show that the price was more generous than necessary and thus to penalize dissenters.⁶⁴ The point is that the buyer should have the choice.

The bigger problem is that deal price may be too low. First, deal price (the percentage premium over market price) may depend on the percentage of shares bought. For example, if a third-party bidder seeks to buy 51% of target shares in a tender offer and then to cash out the remaining stockholders at the same price, a 30% premium may suffice. But if the bidder seeks, for example, 85% of the shares in the tender offer (as required to avoid the application of DGCL 203 in hostile deals), a 50% premium may be required to attract sufficient tenders. The math differs if the buyer already has a 10% or 20% toehold and seeks to buy another 41% or 31%, respectively, of the outstanding shares. Does the toehold cause the background starting market price to increase because of the lower supply of shares or decrease because of the looming prospect of self-dealing? What if the toehold amounts to a controlling interest or meets the 90% standard required for a short-form merger?⁶⁵ Arguably, dissenting (holdout) stockholders should be entitled to higher and higher prices as public float gets smaller and smaller. After all, if the public has been permitted to buy, say, only 10% of the outstanding stock of a given company, those stockholders who are privileged to get a piece of the action should be compensated for what they give up.⁶⁶ But that seems inconsistent with the premise of appraisal that every share is worth the same *pro rata* portion of company value, although it is quite consistent with

63. See *Longpath Capital, LLC v. Ramtron Int'l Corp.*, No. 8094-VCP, 2015 Del. Ch. LEXIS 177, at *83–86 (June 30, 2015) (relying on deal price for appraisal purposes but deducting value of synergies).

64. See, e.g., *Gearreald v. Just Care, Inc.*, No. 5233-VCP, 2012 Del. Ch. LEXIS 91, at *30–31 (Apr. 30, 2012) (appraisal price 14.4% less than deal price).

65. See generally Richard A. Booth, *The Efficient Market, Portfolio Theory and the Downward Sloping Demand Hypothesis*, 68 N.Y.U. L. REV. 1187 (1993). In the end, whether a reduction in supply would necessarily lead to an increase in price is unclear. Indeed, a stock with a very small percentage public float will almost certainly trade at a discount.

66. See Richard A. Booth, *The Efficient Market, Portfolio Theory and the Downward Sloping Demand Hypothesis*, 68 N.Y.U. L. REV. 1187, 1204–06 (1993) (discussing effect of supply on IPO prices). Assuming the truth of the downward-sloping demand hypothesis, one could argue that the excess value perceived by holdout stockholders is akin to the familiar consumer surplus of microeconomics. The fact that some investors are overpaid—because they would have sold out even at a lower price—does not alter the fact that stockholders farther up the demand curve are undercompensated. This would seem to be particularly true in appraisal proceedings involving closely held corporations where stockholders tend to be under-diversified.

the idea that the goal of appraisal is to compensate stockholders for what has been taken from them.

Second, if we think of the price paid in a merger in terms of the (percentage) premium over market price (as we generally do), the question remains: “Premium over what?” Is the premium measured by comparison to a *fair* market price, or is the market price depressed because of sub-optimal management, the threat of self-dealing, or outside market forces? In the former case, a premium is a true premium. In the latter cases, a premium may be nothing more than compensation for a discount built into market price.⁶⁷

Third, deal price is logically a reflection of the second-best use of assets (except where there is merger gain). In an ideal world, with full information and perfect competition, assets should find their way to the highest and best use and thus should generate the highest possible return. If so, buyers should be willing to pay only some lesser price, deal price should be a bit lower than going-concern value (GCV), and stockholders should want to hold.⁶⁸ In other words, we have good reasons to think that most companies are worth more as operating businesses than as assets on the auction block. Therefore, if we start from the premise that most companies are managed well, GCV should be somewhat higher than deal price.⁶⁹

To be sure, the world is not ideal. There may be many companies out there whose assets can be put to better use. But are such companies the exception or the rule? It is one thing to say that market forces do not *always* work as they should, but it is another thing to say that they *usually* fail to do so. Given a reasonably robust market for corporate control, it is difficult to subscribe to the latter view.

Still, it may be that mergers tend to involve precisely those companies whose assets can be better deployed. If the market for corporate control is working as it should—and assuming that business evolves as the economy grows (or shrinks)—one would expect to see a steady flow of deals involving the movement of assets from one application to another. In other words, we should expect the deals we see to involve mostly exceptions to the rule.

On the other hand, most deals that give rise to appraisal proceedings appear to be cash-out mergers in which the buyer is a controlling stockholder.⁷⁰ Additionally, many mergers that appear to be arms-length third-party deals may be tainted by subtle conflicts that justify review. For example, key officers may be retained, or directors may have the opportunity to cash out of equity grants that would otherwise remain subject to lock-ups. Accordingly, it is reasonable to

67. See generally Richard A. Booth, *Discounts and Other Mysteries of Corporate Finance*, 79 CAL. L. REV. 1053 (1991).

68. See Lawrence A. Hamermesh & Michael L. Wachter, *The Fair Value of Cornfields in Delaware Appraisal Law*, 31 J. CORP. L. 119, 142 (2005).

69. This is not to suggest that there is likely to be a large difference between GCV and sale value, but as noted further below the difference will be magnified by the effects of investor diversification.

70. See generally Hamermesh & Wachter, *supra* note 68; cf. MODEL BUS. CORP. ACT. ANN. § 13.02 (2016) (denying appraisal rights for shares of public companies except where the buyer is a 20% or more stockholder of the target).

think that most merger gains should be seen as inherent in the target company. Indeed, *Weinberger* seems to imply as much.⁷¹ If the motivation for a merger is a bargain price, appraisal makes obvious sense. If the motivation for a merger is the buyer's intention to redeploy assets for better use, management arguably should have done so in the first place. Stockholders, particularly holdout stockholders, may have invested precisely for this reason: they saw that the company might be worth more than indicated by the market price.⁷²

Thus, appraisal performs a valuable function by testing deal price against the reasonable expectations of investors as derived from CAPM. Indeed, current appraisal practice, based as it is on DCF/CAPM, arguably addresses each of the problems just listed. By calculating GCV based on projected cash flow and a discount rate derived from market averages (as adjusted for volatility and size), appraisal renders a single price applicable to all shares irrespective of float or market distortions, including company-specific distortions (such as discounts for minority status or liquidity), industry distortions (such as premiums or discounts from merger mania or the opposite), and market-wide distortions (such as irrational exuberance or the lack thereof). In a way, the law seems to have intuited a solution to the intractable conflict between majority rule and private property by affording a measure of individual negotiation to those willing to jump through the hoops of the appraisal remedy.⁷³ So the fact that current

71. To be specific, the *Weinberger* court stated that the trial court should have considered evidence of premiums paid in comparable transactions even in an appraisal proceeding notwithstanding the express exclusion of any merger gain (or loss) under the statutory standard of value. See *Weinberger v. UOP, Inc.*, 457 A.2d 701, 712–14 (Del. 1983). *But see* *Longpath Capital, LLC v. Ramtron Int'l Corp.*, No. 8094-VCP, 2015 Del. Ch. LEXIS 177, at *83–86 (June 30, 2015) (relying on deal price for appraisal purposes but deducting value of synergies).

72. Moreover, bidders must perceive enough additional value in target companies to overcome the effects of investor diversification. In other words, the potential for gain must be sufficiently great to justify a bidder putting a lot of eggs in one basket. This suggests that one policy goal of appraisal may be disgorgement of excessive gains by bidders as well as compensation of investors. See generally *Hamermesh & Wachter*, *supra* note 68.

73. Thus, we may see DCF/CAPM as a kind of arbitration that allows the courts to punt on difficult individualized questions of valuation. In any event, the law is sufficiently confused about premiums that it is understandable that the courts might opt for a valuation method that avoids the subject.

In several cases, the Delaware courts have added premiums to adjust for minority discounts. See *Bomarko, Inc. v. Int'l Telecharge, Inc.*, 794 A.2d 1161, 1189–90 n.14 (Del. Ch. 1999), *aff'd*, 766 A.2d 437 (Del. 2000); *Borussio v. Communications Telesystems Int'l*, 753 A.2d 451, 457–61 (Del. Ch. 1999) (adding 30% control premium because comparable company analysis reflects inherent minority discount); *Le Beau v. M.G. Bancorporation, Inc.*, No. 13414, 1998 Del. Ch. LEXIS 9, at *25 (Jan. 29, 1998) (citing SHANNON P. PRATT ET AL., *VALUING A BUSINESS* 194–95, 210 (3d ed. 1996) and CHRISTOPHER Z. MERCER, *VALUING FINANCIAL INSTITUTIONS* 198–200 and Chapter 13 (1992)). See also *Nebel v. Southwest Bancorp, Inc.*, No. 13618, 1999 Del. Ch. LEXIS 80 (July 5, 1995) (discussing relationship of fair value and fair market value); *but see* *Salomon Brothers, Inc. v. Interstate Bakeries Corp.*, No. 10,054, 1992 Del. Ch. LEXIS 100, at *12–21 (May 1, 1992) (questioning whether adjustment of comparable companies analysis to correct implicit minority discount is an accepted valuation technique).

In several other cases, the courts have added premiums to the value of subsidiary shares on the theory that the subject parent company would be able to sell a controlling interest. See *Rapid-Am. Corp. v. Harris*, 603 A.2d 796, 804–07 (Del. 1992) (ruling that control premium is inherent in the value of subsidiary as effective adjustment for minority discount); *Agranoff v. Miller*, 791 A.2d 880, 897–901 & n.45 (Del. Ch. 2001) (adding 30% premium to adjust for minority discount); *Hint-*

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valuation practice produces a unique number for any given company is a virtue, not a vice. This is not to say (as Pangloss might) that the valuation process is as good as it can possibly be. Indeed, as I have argued here, the process is flawed by the routine adjustment of the terminal period discount rate for inflation and growth. We can do better.

APPRAISAL AND INVESTOR DIVERSIFICATION

Do we really need appraisal in a world of diversified investors? In some cases, deal price may be too low. In other cases, deal price may be too high. For a diversified investor, it all comes out in the wash—or does it? The problem is that this logic applies only if gains and losses are equally likely. In contrast, we have good reason to think that a merger is likely to proceed only if the buyer can secure a bargain price. At most, the buyer will pay a price equal to GCV—a fair price for appraisal purposes. Over many deals, the average of some deals at a fair price and some deals at a lower price is something less than a fair price. It follows that diversification is no protection for stockholders if buyers do not pay too much just as often as they pay too little. Indeed, it is much more common for appraisal courts to find that the price paid is too low rather than too high.⁷⁴

mann v. Fred Weber, Inc., No. 12839, 1998 Del. Ch. LEXIS 26, at *26–32 (Feb. 17, 1998) (20% premium added to value of subsidiary shares); see also *Kleinwort Benson Ltd. v. Silgan Corp.*, No. 11107, 1995 Del. Ch. LEXIS 75, at *5–24 (June 15, 1995) (affirming addition of premium to market price to adjust for inherent minority discount but disallowing portion attributable to merger gain). But see *Cooper v. Pabst Brewing Corp.*, No. 7244, 1993 Del. Ch. LEXIS 91, at *18–25 (June 8, 1993) (rejecting addition of premium as incorporating post-merger value); *Salomon Brothers*, 1992 Del. Ch. LEXIS 100, at *12–21 (same).

The courts have also recognized the need to allocate a control premium over all of the shares. In some cases, a controlling block may be saleable at a higher premium than all of the shares. For example, it is at least conceivable that a buyer might be willing to pay a 100% premium for 51% of the shares but only a 50% premium for 100% of the shares. On the other hand, one could also argue in such cases that the control premium is at the expense of the minority and may even signal the likelihood of looting by the buyer. See *McMullin v. Beran*, 765 A.2d 910, 918–20 (Del. 2000) (considering the possibility that the parent sold control of the subsidiary at a bargain price because of a need for cash). Cf. *Perlman v. Feldmann*, 219 F.2d 173 (2d Cir. 1955) (requiring controlling stockholder to share control premium *pro rata* with the minority where the earlier deal for 100% of shares at a lower price had been rejected). Still other cases have expressly recognized that DCF may avoid the need to use premiums to make any such adjustments altogether. See *Dobler v. Montgomery Cellular Holding Co.*, No. 19211, 2004 Del. Ch. LEXIS 139, at *29–30, (Sept. 30, 2004) (rejecting adjustment for implicit minority discount in DCF calculation); *In re Radiology Assocs., Inc.* 611 A.2d 485, 493 (Del. Ch. 1991) (same); see also SHANNON P. PRATT, *THE LAWYER'S BUSINESS VALUATION HANDBOOK* 359 (2000). “[DCF] value should represent the full value of the future cash flows of the business. Excluding synergies, a company cannot be worth a premium over the value of its future cash flows. Thus, it is improper and illogical to add a control premium to a DCF valuation”; see generally Richard A. Booth, *Minority Discounts and Control Premiums in Appraisal Proceedings*, 57 *BUS. LAW.* 127 (2001); John C. Coates IV, “Fair Value” as an Avoidable Rule of Corporate Law: *Minority Discounts in Conflict Transactions*, 147 *U. PA. L. REV.* 1251 (1999); Lawrence A. Hamermesh & Michael L. Wachter, *The Short and Puzzling Life of the Implied Minority Discount in Delaware Appraisal Law*, 156 *U. PA. L. REV.* 1 (2007).

74. See *Korsmo & Myers*, *supra* note 6, at 1598–1604 (finding that median awards in appraisal are about 50% more than deal price).

It might be argued that if overreaching occurs, a BFD action will follow. Spotting outright looting when it happens may be easy enough, but most cases of failure to maximize are difficult to identify and seldom actionable.⁷⁵ Thus, appraisal may be seen as a second-best solution to a rule requiring maximization of stockholder value.⁷⁶ Moreover, if merger gains come mostly from the elimination of discounts because of sub-optimal management, appraisal seems to be justified even if most investors are diversified. Because bargaining happens in the shadow of the law, appraisal will help drive prices toward fairness. Where a robust appraisal remedy exists, bidders will be induced to pay a fair price up front.⁷⁷ Thus, appraisal is ultimately good for both bidders and target stockholders. As noted above, appraisal and appraisal arbitrage may ultimately redound to the benefit of bidders as a sort of bonding mechanism that reassures target stockholders as to fairness of price. If target stockholders know that bidders must ultimately pay a fair price, they may be more willing to agree to the deal. Indeed, this may explain in some part why bidders continue to use the merger method even though almost any deal could be structured as a sale of assets (or reverse stock split) without triggering appraisal rights, at least in Delaware.⁷⁸ In other words, bidders may actually *gain* from affording appraisal rights in the form of a somewhat reduced deal price resulting from an increase of trust on the part of target stockholders.

Still, the question remains: do we need appraisal arbitrage? Although the appraisal remedy may make sense, that does not necessarily imply that we should permit new investors to buy into the claims of old investors, especially if the rationale for the appraisal remedy is to compensate unwilling sellers who are forced to give up their shares in a merger.

75. Indeed, the core debate at the Delaware Supreme Court about the wisdom of M&F *Worldwide Corp.* is said to have focused on whether stockholders should always be entitled to review of the term of a cash-out merger. See *Kahn v. M&F Worldwide Corp.*, 88 A.3d 635, 645, n.14 (Del. 2014) (listing four reasons why the complaint therein would have survived a motion to dismiss). Although Delaware law provided for automatic review under the business purpose test of *Singer v. Magnavox Co.*, 380 A.2d 969 (Del. 1977), and *Singer* was supposedly reversed by *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983), only to be re-reversed (arguably) by *Smith v. Van Gorkom*, 488 A.2d 858 (Del. 1985) and *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173 (Del. 1986), the courts nevertheless declined to apply the business judgment rule until *M&F Worldwide Corp.* was decided in 2013 (and affirmed in 2014).

76. Incidentally, the prevailing DCF/CAPM approach to valuation is a brilliant way to see through the camouflage of market prices. By measuring return in terms of cash flow rather than reported earnings, appraisal focuses on what matters to investors: the potential for return. To paraphrase a title used by a prolific finance scholar: Earnings are opinion. Cash flow is fact. See Pablo Fernandez, *Cash Flow is a Fact. Net Income is Just an Opinion* (Nov. 17, 2015). By determining the discount rate by reference to historical averages as adjusted for volatility and firm size, appraisal reflects the reasonable expectations of diversified investors. But this approach does not reflect any company-specific factors other than projected return. Rather, it treats all companies as fungible commodities and does not compensate a stock-picking investor for any element of value that is peculiar to a given company.

77. As Wal-Mart management is wont to say, Wal-Mart reduces prices even for consumers who do not shop there.

78. To be sure, there are many other reasons why the parties may choose to structure a deal as a merger, including tax considerations and the complexity and expense of other modes (such as asset sales).

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The answer is that appraisal works best if appraisal arbitration is possible. In the absence thereof, bidders may reckon that many potential dissenters will decline to exercise their appraisal rights. If the bidder is thus required to pay a fair price only to some dissenting stockholders, the bidder comes out ahead. But appraisal arbitration fixes this market failure.⁷⁹

On the other hand, it could be argued that appraisal arbitration encourages stockholders to vote against a proposed deal because they know they will get the merger price anyway if the deal succeeds.⁸⁰ But the obvious risk is that the deal may fail if too many stockholders vote against it. (Brexit comes to mind.) Moreover, if the deal succeeds, a stockholder who sells out before closing will almost certainly suffer some discount.⁸¹ Hence, stockholders gain nothing from strategic voting.⁸² In other words, appraisal arbitration encourages stockholders to vote according to their conscience.

To be sure, flaws in valuation practice that tend to result in too-generous awards seem likely to encourage appraisal arbitration. But the easy answer to this problem is to fix it by eliminating the adjustment of terminal-period discount rates for inflation and growth.

REVISITING THE SUPPLY SIDE

Aside from stating an almost-compelling case for having and keeping the appraisal remedy, the foregoing considerations also militate for the use of a supply-side discount rate in appraisal proceedings. Although we know for sure the measure of returns experienced in the past, market prices depend on investor expectations about the future. If a reasonable equity investor expects returns of about 11% going forward—rather than the 12% long-term historical average—then market prices today presumably reflect such expectations (and thus investor demands).

To be clear, the debate over discount rates is about the best guess as to what investors demand. If I know that the return on a given stock will be \$10 per

79. Still, one might ask whether the social cost of appraisal is justified. Appraisal litigation is expensive and time consuming for both petitioners and defendants. But as others have pointed out, appraisal is different from other forms of deal litigation in that the parties bear their own costs, and the end result is a cash award (if successful). In other words, there is no potential for a shake-down (such as attorney fees in exchange for a disclosure-only settlement), although it is always possible for respondent buyers to settle a meritless case if it is possible to do so for less than the cost of defense in the proceeding. See generally Korsmo & Myers, *supra* note 6. The point is that both petitioners and defendants are in a good position to weigh the true costs and benefits of appraisal litigation. From the point of view of the arbs, if the gain isn't there, they won't file.

80. See Richard A. Booth, *The New Law of Freeze-Out Mergers*, 49 Mo. L. Rev. 517, 557–65 (1984).

81. Presumably, that discount reflects potential gains from appraisal arbitration. In other words, the arbs may be willing to pay more if they stand to gain more in the end.

82. In a world of appraisal arbitration, it is fair to presume that every no-voting (and abstaining) share will seek appraisal as long as there is any significant opposition to the deal. Thus, stockholders will know that every “no” vote affects the prospect of success for the deal, and bidders will know the trade-off between a low-ball offer and a deal that garners a higher percentage of votes, thus effectively eliminating the possibility that relatively few dissenters will seek appraisal. In the end, more certainty means more deals. Moreover, appraisal arbitration is likely to focus the attention of appraisal courts for the same reason.

share per year, and I am willing to accept 11% return on that stock, then the price will be \$90.90 per share. But if I require 12% return on that stock, then the price will be \$83.33 per share. The problem is that we do not know what return investors really expect or what rate of return they really demand. We have the data, but we do not know what it means. Although Jetley and Ji make the obvious point (which many have missed) that applying a lower discount rate implies a higher calculated value, they fail to note the irony inherent in the idea that reduced expectations mean higher stock prices in the here and now. In other words, market prices today presumably already reflect any future adjustment for lower expectations. It is simply unbelievable that the market has failed to notice the arguments of numerous eminent scholars that investors should expect lower returns. But unlike recent observations of the Higgs boson and gravitational waves, we have not seen any clear evidence in the form of generally falling market prices: if investors continued to demand 12% while expected returns declined, presumably market prices would have fallen accordingly. Thus, although investors may expect the future to be similar to the past, it is more likely that a similar reduction in discount rates has offset lower expected returns.

If appraisal is intended to be compensation for a taking from an unwilling seller, a supply-side discount rate is completely consistent with the indicated standard of value. Although a raw historical rate reflects both past returns and done deals, the price of a stock today reflects investor expectations for the future. Using a supply-side discount rate implicitly acknowledges that fact.

Jetley and Ji argue that the law misunderstands finance. What they do not appreciate is that common stock is a package of rights defined by legal rules. In other words, common stock is ultimately what the law says it is. So finance depends on law. On the other hand, the law is both positive and normative—both chicken and egg. The law responds to practice. The financial community and its lawyers are free to construct other securities to the extent that doing so creates value. But to say that the law and appraisal courts have gotten it wrong about appraisal arbitration is to misunderstand the role of law. Nevertheless, it does not help for appraisal courts to hide behind the *aw shucks* notion that law-trained judges are ill-suited to address such questions. Rather, the legal profession should be better schooled in the finance that ultimately lies beneath corporation law.

CONCLUSION

Appraisal arbitration has gotten a bad rap. Neither of the two most common criticisms—that Delaware law affords a free option to after-acquiring stockholders and awards prejudgment interest at a too generous rate—holds any water. Nor is it clear that appraisal courts' use of the somewhat lower supply-side discount rate (as opposed to deal advisors' typical use of the somewhat higher raw historical rate) leads to appraisal awards that are too generous. Rather, the supply-side rate is arguably more consistent with the legitimate goal of the appraisal remedy to

compensate investors—who are unwilling sellers—for going-concern value. The real problem is the almost-standard practice of further reducing the discount rate applicable to the terminal period by the projected rate of inflation and GDP growth. Simply put, these factors are already baked into the discount rate reflected by market prices. Although adjusting for a company-specific plowback rate is perfectly appropriate, reducing the discount rate by these generic factors—and, accordingly, increasing appraisal price—compensates dissenters as if they would not demand returns commensurate with inflation and growth. Thus, appraisal arbitrage may indeed be unduly encouraged, but the problem is one of valuation practice, not of governing law.

APPENDIX

TERMINAL VALUE AS A PERCENT OF TOTAL
VALUE AT VARIOUS DISCOUNT RATES

(assuming five-year projection period)

DISCOUNT RATE	VALUE OF \$1 FOR 5 YEARS	VALUE OF \$1 PERPETUITY	DIFFERENCE = TERMINAL VALUE	TERMINAL VALUE AS % OF WHOLE
0.02	4.7135	50.0000	45.2865	0.9057
0.03	4.5797	33.3333	28.7536	0.8626
0.04	4.4518	25.0000	20.5482	0.8219
0.05	4.3295	20.0000	15.6705	0.7835
0.06	4.2124	16.6667	12.4543	0.7473
0.07	4.1002	14.2857	10.1855	0.7130
0.08	3.9927	12.5000	8.5073	0.6806
0.09	3.8897	11.1111	7.2214	0.6499
0.10	3.7908	10.0000	6.2092	0.6209
0.11	3.6959	9.0909	5.3950	0.5935
0.12	3.6048	8.3333	4.7285	0.5674
0.13	3.5172	7.6923	4.1751	0.5428
0.14	3.4331	7.1429	3.7098	0.5194
0.15	3.3522	6.6667	3.3145	0.4972

