

THE REAL PROBLEM WITH APPRAISAL ARBITRAGE

By Richard A. Booth

ABSTRACT

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 – which may already have been approved by the target stockholders. 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 -- because the majority rules. But the real puzzle is why appraisal arbitrage is profitable since 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. Thus, commentators have argued that the profit derives from (1) a free option to assert appraisal rights at any time until target shares are cancelled (and indeed for short time thereafter), (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 shown in this article, 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 by the projected rate of inflation and growth for the so-called terminal period beyond five years into the future. 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. Thus, appraisal arbitrage is likely encouraged by awards that are skewed to the high side by erroneous valuation practices.

KEY WORDS: appraisal arbitrage, merger, valuation, discount rate, growth, inflation, option, pre-judgment interest, supply-side, equity risk premium, terminal period, discounted cash flow, DCF, capital asset pricing model, CAPM, fair price

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THE REAL PROBLEM WITH APPRAISAL ARBITRAGE

By Richard A. Booth[†]

It has become a common practice for activist investors buy up shares of target corporations to be acquired by merger in order to assert appraisal rights challenging the price of the deal – even though the merger may already have been approved by the target stockholders. 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 -- because the majority rules. But the real puzzle is why appraisal arbitrage is profitable since 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.

In a recent article, Gaurav Jetley and Xinyu Ji argue that Delaware law and the Delaware courts unduly encourage appraisal arbitrage.¹ 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.²
2. In practice, the Delaware courts apply a discount rate that is lower than the rate used by investment bankers and other deal advisers, thus increasing values calculated in appraisal proceedings as compared to prices negotiated in the real world of business.³
3. The Delaware appraisal statute provides for the award 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.⁴

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¹ Gaurav Jetley & Xinyu Ji, *Appraisal Arbitrage – Is There a Delaware Advantage?*, 71 Bus. Law. 427 (2016).

² *Id.* at 433-41.

³ *Id.* at 441-49.

⁴ *Id.* at 452-55.

The first and third points are familiar arguments that have been made by other commentators, although the authors present these points in the more rigorous language of financial economics.⁵ But both of these points are wrong as a matter of financial economics.

The second point may be new to those less familiar with financial economics. It is arguably correct – as far as it goes. But it misses a closely related problem that is even more significant, to wit that the Delaware courts routinely *further* reduce the discount rate by the projected rates of inflation and growth.⁶ As I argue herein, it is this further reduction that is the real problem – and that unduly encourages appraisal arbitrage.

To be clear, there are two (or three) big issues intertwined here. One relates to the calculation of value itself and whether appraisal arbitrageurs (sometimes *arbs* herein) are somehow able to extract more than fair value from the system 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 third issue – one that is expressly eschewed by Jetley and Ji – is whether appraisal rights are important – whether they matter to stockholders in the sense that they provide valuable protection from mispricing in connection with mergers. Although it is understandable that the authors would leave these issues for the most part to the lawyers, they are central to the resolution of the debate over appraisal arbitrage and are thus unavoidable.

In this short article, I first address the three primary arguments made by the authors in the order outlined above in Parts I through III. In Part IV, I address the broader policy issues of whether appraisal rights should matter to investors and whether appraisal arbitrage constitutes an abuse thereof. Quite to the contrary, 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 growth is mistaken and unduly encourages appraisal arbitrage by enhancing appraisal awards.

⁵ 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).

⁶ The most egregious such case is *Gearreald v. Just Care, Inc.*, 2012 Del. Ch. LEXIS 91, 2012 WL 1569818, where the court applied a total 5.5% reduction to the terminal period discount rate. Ironically, the appraisal price so calculated was 14.4% less than deal price.

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 the 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 that vote against the merger (or abstain). 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 cancelled.⁷

While 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.

Simply put, it is almost impossible for any information revealed after a merger is announced to have any effect on fair price as determined by an appraisal court. Under the prevailing discounted cash flow (DCF) approach, valuation is based wholly on cash flow projections prepared in the normal course of business – and not in anticipation of litigation. Thus, the courts require projected return to be based on internal numbers generated before the deal becomes a factor in the mix.⁸

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 company size.⁹

⁷ See *In re Transkaryotic Therapies, Inc.*, 954 A.2d 346 (Del. Ch. 2008) (permitting buyers after merger record date to seek appraisal as long as number of shares was no greater than number voting against merger or abstaining and despite possible attraction of speculators). Although *Transkaryotic* is often cited as one reason for the emergence of appraisal arbitrage (together with a generous legal rate of interest), it is not clear that the case effected much of a change in the law. Nor did the appraisal arbitrage emerge immediately thereafter. Thus, it is not clear what prompted the emergence of appraisal arbitrage. See Charles R. Korsmo & Minor Myers, *Appraisal Arbitrage and the Future of Public Company M&A*, 92 Wash. U. L. Rev. 1551 (2015). Indeed, as discussed in more detail below, the practice is equally possible under the continually amended MBCA with the probably irrelevant difference that the subject company may pay the petitioner up front so as to avoid accrual of some of the interest.

⁸ See *Longpath Capital, LLC v. Ramtron International Corporation*, 2015 Del. Ch. LEXIS 177.

⁹ See *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497 (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 there is surprisingly little scholarship on the point.

These factors are thus cast in stone before the deal happens. Nothing disclosed in the period from announcement to consummation can have any effect on projected return or on the discount rate applied.

To be sure, in at least one notable case, *Technicolor*, 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.¹⁰ Moreover, *Technicolor* also effectively addressed the question of *when* to determine the discount rate – what period of time (data) to use in 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.¹¹ 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 there is nothing that can happen after a deal is negotiated and announced that can change the value of the target company for appraisal purposes. Of course, fraud is always a possibility. But in that case the appraisal proceeding will be supplanted by an action for breach of fiduciary duty (BFD) anyway. In any event, there is no indication in any reported case that such factors have made any difference in appraisal actions.¹²

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. Thus, 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. So the free option described by the authors is free because it has no value. The appraisal price will be what it will be. *Que sera sera*.

It is possible that the court will find that the value of the subject company is higher than the merger price. But this gain for arbs does not arise because the value of the subject

¹⁰ See *Cede & Co. v. Technicolor, Inc.*, 2003 Del. Ch. LEXIS 146 (opinion by Chandler) (also summarizing 1990 decision regarding growth). It is not clear that this added value made any difference to the calculation of fair price in the end.

¹¹ *Cede & Co. v. Technicolor, Inc.*, 1999 Del. Ch. LEXIS 15.

¹² 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 value may change because of oil prices, a drug-approval or other earnings surprise, or new information disclosed in the definitive proxy statement. See Jetley & Ji at 437.

company has increased. Rather, the gain (if any) arises only because the parties are shown to be wrong about the price they negotiated.

In short, the argument confuses time value of money with option value. Arbs can postpone tie-up of their own money – theoretically until the day before closing. But this does not change the quantum of cash tied up by stockholders in the aggregate until closing. Indeed, every dollar invested by arbs is a dollar less 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 seem quite clearly 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 asserting a derivative action – if only because they presumably bought their shares at a price reflecting the alleged wrong against the corporation.¹³ Never mind that after-acquiring stockholders will still benefit from any recovery. They just cannot be representative plaintiffs.¹⁴

On the other hand, it is also quite clear that 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.¹⁵ And since 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.

This issue is discussed further below in Parts III and IV. But the short answer for present purposes 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.

¹³ See FRCP 23.1 (governing derivative actions)

¹⁴ For a critique of this rule see, J. Travis Laster, *Goodbye to the Contemporaneous Ownership Requirement*, 33 Del. J. Corp. L. 673 (2008).

¹⁵ See, e.g., *In the Matter of Chicago, Milwaukee, St. Paul & Pac. R. Co.*, 791 F.2d 524 (7th Cir. 1986).

II. Supply-Side Discount Rate

Jetley and Ji further argue that appraisal arbitrage may be unduly encouraged because the Delaware courts apply discount rates that are lower than those used in practice by financial professionals. 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 advisers – the historical rate of return.¹⁶ While it is true that the lower supply-side discount rate results in higher bottom-line values, a much more important factor is the further adjustment for projected growth and inflation that 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 arbitrage.

Required Rate of Return (RRR)

Before we drill down deeper into this issue, it is important to be clear about 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 it works only if return is the same each year – which is why the traditional approach was to use an average of projected returns.

¹⁶ 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 repeat and results in a discount rate of about 11% net of such elements. See IBBOTSON SBBI 2015 CLASSIC YEARBOOK at 155-58 (hereinafter SBBI 2015). 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 rings a bit of Reagan-era Voodoo Economics and the Laffer Curve. Moreover, the supply-side rate is ultimately based on historical data. And 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. Since the difference between the raw historical rate and the supply-side rate inheres in 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 at 442-49. Note that one non-appraisal case – *Rural/Metro* – is omitted here from the range used by the courts since that case was not in fact an appraisal proceeding but rather was the damages phase an action arising from a breach of fiduciary duty (BFD).

In this formula, the discount rate is the rate of return demanded by investors (the market) given the risk inherent in the business. Thus, it may aptly be called the required rate of return (RRR) -- as it is sometimes here as a subtle reminder of what it 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.¹⁷

Traditionally, RRR is based on the historical rate of return as measured by the arithmetic average annual total return on the 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 based on the S&P 500). Given that growth in stock prices derives ultimately from economic growth (and vice versa), slower economic growth going forward means less 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 one percent of the 12% raw historical average equity return is attributable to an increase in price/earnings (P/E) ratios that is unlikely ever to be repeated.

While the former argument – that the future is not likely to be as expansive as the past – 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 can be attributed to investor diversification (through the growth of mutual funds and other such investment vehicles) and 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. Thus, stocks became more valuable during this period (particularly since the middle 1970s) because investors found new ways to reduce risk.¹⁸ But this element of return is a one-time event that cannot be

¹⁷ Since dividing return by the discount rate is equivalent to multiplication by the reciprocal thereof, a lower discount rate results in a higher multiplier. In short:

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

¹⁸ See generally Richard A. Booth, *Five Decades of Corporation Law – From Conglomeration to Equity Compensation*, 53 VILLANOVA L. REV. 459 (2008).

repeated. To be sure, there may be many other one-time events to come in the future. But there is no doubt this one is unrepeatable. So the supply of returns going forward is likely to be lower than the raw historical rate. In other words, the market has already eaten the free lunch of diversification.¹⁹

Although using this supply-side rate results in a roughly one percent reduction in the discount rate (from about 12% to about 11% on the benchmark S&P 500 portfolio), the Delaware courts often reduce this figure still further – by as much as 5.5% – to adjust for projected growth and inflation in returns during the terminal period – typically the period beginning after five years and extending indefinitely into the future.²⁰ Since the lump-sum value of returns during this terminal period is usually about half of the total

¹⁹ Ibbotson estimates that about 0.63% of the historical geometric (compound) average 10.1% annual return is attributable to increases in P/E. See SBBI 2015 at 155-58. Since the historical geometric average of 10.1% translates into about 12.1% as a simple arithmetic average annual return, the effect of increasing P/E is here rounded up to 1% while the average raw total return is rounded down to 12% and the total supply side return is estimated to be 11% for purposes of illustration. In other words, I make no claim that these are exactly the numbers one should use in a real world valuation. Rather, the focus here is on the general relationship. Note that the total historical return includes the risk-free rate usually as measured by the rate on a 20Y government bond – which has itself averaged about 5.1% since 1925. Thus, total return varies as interest rates vary. So the relevant number is the spread – the equity risk premium (ERP) of about 7% (raw) or 6% (supply-side). Note also that ERP is adjusted for individual stocks based on the volatility thereof. So the effective ERP may be more (for a riskier stock) or less (for a safer stock).

²⁰ See, e.g., *Merion Capital LP v. BMC Software, Inc.*, 2015 Del. Ch. LEXIS 268 (3.25% growth rate applied to terminal period); *Merion Capital, L.P. v. 3M Cogent, Inc.*, 2013 Del. Ch. LEXIS 172 (4.5%); *Towerview LLC v. Cox Radio, Inc.*, 2013 Del. Ch. LEXIS 159, 2013 WL 3316186 (2.25%); *Gearreald v. Just Care, Inc.*, 2012 Del. Ch. LEXIS 91, 2012 WL 1569818 (5.5%); *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497 (Del. Ch.), *aff'd*, 11 A.3d 214 (Del. 2010) (5%). *But see* *In re Orchard Enterprises*, 2012 Del. Ch. LEXIS 165, 2012 WL 2923305 (suggesting that adjustment for growth is inappropriate in context of discounted cash flow DCF valuation but may be implicit in valuation based on EBITDA multiple). And see *Prescott Group Small Cap, L.P. v. Coleman Co., Inc.*, 2004 WL 2059515 (Del. Ch. 2004) (accepting range of growth rates in three-step valuation but relying primarily on non CAPM-DCF valuation); *Cede & Co., Inc. v. MedPointe Healthcare, Inc.*, 2004 WL 2093967 (Del. Ch. 2004), judgment entered, 2004 WL 5382083 (Del. Ch. 2004) (applying 3.35 growth rate as somewhat above inflation and after expiration of patents); *Lane v. Cancer Treatment Centers of America, Inc.*, 2004 WL 1752847 (Del. Ch. 2004) (adopting 5% growth rate as at least equal to rate of inflation); *In re Radiology Associates, Inc. Litigation*, 611 A.2d 485 (Del. Ch. 1991) (applying 5% growth rate). See also *CSX Transp., Inc. v. State Bd. of Equalization*, 472 F.3d 1281 (11th Cir. 2006), *judgment rev'd*, 552 U.S. 9, 128 S. Ct. 467, 169 L. Ed. 2d 418, 2007 (2007) (accepting 6.3% terminal growth rate in DCF valuation based on projected growth in GDP); *Morton v. C.I.R., T.C. Memo. 1997-166* (1997) (discussing appraisal including range of terminal growth rates but rejected on other grounds); *In re Mirant Corp.*, 334 B.R. 800 (Bankr. N.D. Tex. 2005) (applying 3% terminal growth rate and stating that growth rate must exceed inflation for company to survive).

value of the subject company, the adjustment for growth and inflation can be equivalent to almost a 3% reduction in the aggregate discount rate.²¹

Adjusting RRR for Growth (and Inflation)

The argument for reducing RRR for the terminal period to reflect growth (and inflation) is quite different from the argument for using a supply-side discount rate – which is not to mention that it is fundamentally inconsistent with the argument for using a supply-side discount rate. Regrettably, the explanation of how the formula works is a bit complicated. But it is vital to understand how it works in order to understand why it is wrong to adjust the terminal period discount rate. Moreover, this complexity also explains why the law is confused and (ultimately) why appraisal arbitrage can be so profitable.

So here goes:

The basic valuation formula assumes constant (equal) payments. But often returns are expected to grow. Indeed, businesses that are the subject of appraisal proceedings tend to be promising. Otherwise they would not so often be the targets of mergers that trigger appraisal.

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

$$\text{VALUE} = \text{RETURN} / (\text{DISCOUNT RATE} - \text{GROWTH RATE})^{22}$$

²¹ See chart in appendix.

²² 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.

Again, 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 return and growth in order to use the formula, it was common in the old days (before 1983) to resort to averages for both. But in the real world, both returns and growth tend to vary. So 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 discounted cash flow (DCF)), valuation practice has changed dramatically.²³ Today, returns are projected (and valued) year-by-year typically for the first five years going forward. Returns thereafter – for Year 6 and beyond – the so-called *terminal period* – are valued using the formula and based on a projected average of returns. Since specific projections beyond five years are usually unreliable, and since year-to-year variations in the distant future have relatively small effects on present value that are likely to wash out anyway, it seems safe to use a projected average of returns for the terminal period.²⁴

The key point is that there is no need to adjust for growth during the five-year *projection period* since returns as projected year-by-year may be adjusted to reflect any variation that may be expected – whether up or down – both as to increasing inflows and the increasing outflows necessary to generate them. But it is conceivable that returns will continue to grow after the five-year projection period. So plaintiff-side experts often argue that the discount rate for the terminal period should be adjusted downward accordingly.

Indeed, plaintiff-side experts have argued that returns *must* grow by at least the rate of inflation for any viable business -- lest it disappear with the passage of time.²⁵ In addition, they have argued that returns can be expected to grow (on average) by the rate of overall economic growth – as measured by changes in GDP – since growth in

²³ *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983). Note that some commentators refer to the traditional approach as *capitalization* of earnings but seem to object to the use of the term *capitalization* in connection with DCF. While 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.

²⁴ Needless to say, this lump sum value for the terminal period must itself be discounted to present value since it reflects returns beginning after five years into the future.

²⁵ See *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497 (Del. Ch.), *aff'd*, 11 A.3d 214 (Del. 2010).

returns from business is the source of economic growth (as noted above). Thus, it has become almost standard practice in Delaware appraisal proceedings to reduce the discount rate for the terminal period by the total of the projected rate of inflation and the projected rate of economic growth – estimated in one case to be as much as 5.5% in total.²⁶

The Fallacy of Adjusting for Growth (and Inflation)

At first blush, it may seem reasonable to adjust terminal value for inflation and general economic growth. But it is completely mistaken to do so.

Regarding adjustment for inflation, valuation is ultimately a calculation of *present value*. And present value *means* value in current dollars. So it makes no sense to adjust returns for expected inflation since the result would need then to be *deflated* to current dollars. It is much simpler to calculate in current dollars. No steps are better than two. Indeed, the courts have said as much, but they seem to have lost track of their own precedent.²⁷ As an investor, if I pay a higher price – because it is adjusted upward for increasing returns from inflation – my expected return is correspondingly lower and my inflation protection is gone.²⁸

Regarding adjustment for growth, these same arguments apply *ceteris paribus*. The prospect of general economic growth is baked into the expected rate of return. Since

²⁶ See *Gearreald v. Just Care, Inc.*, 2012 Del. Ch. LEXIS 91, 2012 WL 1569818.

²⁷ See *In re United States Cellular Operating Co.*, 2005 Del. Ch. LEXIS 1 (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 part of the return investors 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 TIPS – treasury inflation protected securities – 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, income return is also affected by inflation. As with TIPSs where the coupon rate is applied to the adjusted principal amount, SPD earnings are here expressed as a percentage of the index level at year-end. So 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.*, 2013 Del. Ch. LEXIS 172 at *52-55 (discussing alternatives of short, medium, and long term rates on US government securities).

²⁸ Since compensation for inflation is built into the risk-free rate and thus the aggregate discount rate, adjusting the discount rate for inflation is equivalent to using the real interest rate as the risk-free rate.

the discount rate under CAPM is based on historical returns, and since historical returns reflect growth in value – which translates into growth in the economy as a whole – the discount rate also reflects *expectations* about general economic growth (or so much of it as is generated by publicly traded stocks).²⁹ In other words, equity investors expect (and demand) a certain amount of growth prospect when they invest. To adjust prices *upward* by reducing the discount rate for prospective growth effectively eliminates that element of return.

To be sure, sellers (and appraisal plaintiffs) may want higher prices. But buyers want lower prices and concomitant returns. The bottom line is that to adjust the discount rate for inflation and growth is simply to negate these component factors of expected return. (And never mind the irony that the rationale for using a supply-side discount rate is that investors should expect lower returns going forward.)

Finally, and ultimately most damning, growth almost always requires (re)investment – the diversion of cash that could be paid out to stockholders. For example, a business that wants to increase sales may need to buy more inventory, rent a bigger warehouse, and hire additional employees. Growth does not grow on trees. (To be sure, the business may be able to raise prices (and profits) without any new investment. But that is inflation – not real growth.)

As it turns out, the use of excess 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 the business because the present value of increasing returns is exactly offset by the reduction in cash available to distribute to stockholders. So 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. And that extra \$5 in return will represent 5% growth in return from \$100 to \$105. But there will be only \$50 left to distribute to the stockholders. So the value of the business with growth is:

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

²⁹ While the return on an ordinary bond comprises both real interest and compensation for inflation, this rate does not reflect any expectation of economic growth except to the extent that growth may reduce risk. But that is irrelevant in the context of a risk-free government bond. Moreover, growth increases the risk of inflation. Thus, returns from expected growth must be built into ERP.

The bottom line is that there is no need to adjust the discount rate for ordinary growth – growth from reinvestment of available cash at the ordinary required rate of return (RRR) since it has no effect on value. Rather, the increase in value from increasing returns is exactly offset by the diversion of returns to new investment.

To be sure, if the business can find opportunities that generate more than a 10% return – and thus more than a 5% increase 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, the ability to generate returns in excess of the cost of capital will quickly be dissipated by competition in the absence of barriers to entry.³⁰ So it is fair to presume that growth is unlikely to persist beyond the projection period in the absence of positive evidence to the contrary.

Thus, most growth comes from reinvestment of available cash at ordinary rates of return (RRR). If the argument is that a business can expect to grow faster by other means, the burden should be on the proponent to explain how. Indeed, appraisal courts have often used a three-stage approach to deal with situations where the subject company reasonably expects returns to grow for some time beyond the five-year projection period. 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 adjust for growth in the terminal period.

Again, the 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 since 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 since it reduces the potential for cash return now in exchange for cash return in the future. This is quite easy to see in the near-term projection period where return (cash flow) is calculated expressly by toting up inflows and outflows of cash irrespective of how they may be characterized under GAAP (such as whether ordinary or capital). Thus, no one has seriously argued 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. But the same logic applies to returns in the terminal period if they are stated in terms of cash flow (which they are). So it is curious that the courts continue to adjust the terminal

³⁰ See *Cede & Co. v. Technicolor, Inc.*, 1999 Del. Ch. LEXIS 15 (rejecting generic growth rate for terminal period because opportunities for growth can be expected to dissipate). On the other hand, the *Cede* court also rejected the now standard small-company premium as speculative and insufficiently explained by scholarship. *Cede & Co. v. Technicolor, Inc.*, 1990 Del. Ch. LEXIS 259 at *98-99. It is tempting to see this ruling as pay-back for rejecting any adjustment for growth in the terminal period. But in the end we must take the court at its word.

period discount rate for growth (not to mention inflation). This is not to say that GAAP is wrong. Indeed, GAAP may be superior for management purposes or for purposes of measuring solvency (in the bankruptcy sense). But it seems quite clear that investors care most about cash flow.

The bottom line is that 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 growth – in one case a whopping 5.5% total reduction. Since the terminal period accounts for more than half of total value (at discount rates of less than 15%), 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 found by the authors resulting from the use of supply-side estimates.³¹

III. Pre-Judgment Interest

The third big point made by Jetley & Ji (and others) is that awarding pre-judgment interest at the Delaware legal rate -- 5% over the FRB discount rate -- is far too generous since it exceeds the rate of interest that is available to investors from other sources. Indeed, as of June 2016, a 30Y US government bond pays only about 2.5% and a BBB corporate bond pays only about 3.6%. So arbs make money while they wait for the appraisal award – and often enough to compensate for an award that turns out to be less than the merger price (as awards sometimes do).³² 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 in order to stop the accrual of interest while the appraisal proceeding is pending.³³

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, it is arguable 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. On the other hand, this rate may be a

³¹ See note 16 supra and chart in appendix.

³² See, e.g., *Gearreald v. Just Care, Inc.*, 2012 Del. Ch. LEXIS 91, 2012 WL 1569818 (fair value found to be 14.4% less than deal price). But because of the interest award, Gearreald realized a gain of 11.7% at the end of the day. Thanks to Jake Noone (VLS 2016) for identifying and analyzing this case.

³³ This is essentially what the MBCA provides. See MBCA 13.24. Ironically (or not), MBCA 13.25 permits the subject company to withhold advance payment from stockholders who acquire shares after announcement of the deal. But note that the MBCA does not deny appraisal rights to such stockholders.

bit too generous since 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. Since 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.³⁴

Moreover, it is not clear that subject companies (or their acquirers) would choose to pay the merger price up front even if they had the option to do so. If the cost of equity capital is 11% it is a good deal for the acquirer to pay 5% for as long as the appraisal proceeding lasts. Viewed in this light, the legal rate makes a good deal of sense. At current 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. But (on the third hand) they have bought the stock they hold from legacy investors and thus should be entitled to the same package of rights enjoyed by such investors.³⁵ If the rights of arbs are curtailed in some way, the result will be a bigger discount for stockholders who choose to sell out. And that in turn will raise the price of deals for acquirers since target stockholders will be less confident that they will be paid based on the agreed amount *when* they want to be paid. It is certainly understandable that acquirers would want to curtail appraisal arbitrage *ex post*. But *ex ante* it serves them well.³⁶

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

³⁴ This same argument goes for the so-called prudent investor rate that prevailed before the legal rate was made presumptively applicable by statute in 2007.

³⁵ As discussed more fully in Part IV, arbs may thus be seen as factors of sorts who provide a valuable service to target stockholders.

³⁶ 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 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. It is unclear whether this figure is based on total market price or a percentage of the premium. In any event, this would seem to be a reasonable price to pay to avoid waiting – and the risk of deal failure – especially in light of the interest that may be earned in the interim.

IV. Deal Price and Standard of Value

In addition to their primary arguments, the Jetley and Ji observe that Delaware appraisal practice seems to assume that there is 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 negotiating skills of the parties.³⁷

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 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 fail to grasp is that the standard of value in an appraisal proceeding is arguably different 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 (WSWB) 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 really whether the target bargained for a price that is good enough.³⁸

To be sure, the courts themselves have often lost track of this distinction. It is not uncommon for a court to collapse an appraisal proceeding and a BFD case into one matter on the theory that the price is the price.³⁹ But it is just as common for

³⁷ The authors appear to derive some pleasure from holding forth as to how point estimates can be misleading. The flaw of averages as Ibbotson calls it. See SBBI 2015 at 147. But this point is well known in the law. See *Wielgos v. Commonwealth Edison Co.*, 892 F.2d 509, 516 (7th Cir. 1989). See also MBCA 13.01 (Official Comment) (“Modern valuation methods will normally result in a range of values, not a particular single value.”); PCG 7.22 (to same effect).

³⁸ To wit, the authors include *Rural Metro* in their small sample of cases surveying ERPs applied by Delaware courts even though it was not an appraisal case. And interestingly, the *Rural Metro* court appears to apply the highest ERP in the sample.

³⁹ Thanks to Gertrude Stein for this construction. See *In re Sunbelt Beverage Corp. Shareholder Litigation*, 2010 WL 26539 (Del. Ch. 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. 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 (Del. 1983) (describing transitional approach mandated thereunder as quasi-appraisal).

the courts to note that fair value is something different from fair market value.⁴⁰ While it is possible that the two are the same in some cases, the fact remains that the standards are different. So it must be possible that the resulting valuation may differ.⁴¹

Nevertheless, as Jettley and Ji note and consistent with their implicit recommendation, Delaware appraisal courts have indeed begun to rely more heavily on deal price.⁴²

⁴⁰ See *In re Appraisal of Dell Inc.*, 2016 Del. Ch. LEXIS 81 (noting that FMV is not the standard in appraisal); *In re Emerging Communications, Inc. Shareholders Litigation*, 2004 WL 1305745, at *31 (Del. Ch. 2004).

⁴¹ Indeed, there are still other standards of value that may be applied when circumstances require. For example, in egregious cases the courts 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 is essentially the same thing as disgorgement of gain by the buyer/survivor in the merger. It is not entirely clear when rescissory damages is will lie. Again, the remedy can be traced 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. See *Lynch v. Vickers Energy Corp.*, 429 A.2d 497 (Del. 1981). It remains unclear where the line of demarcation falls. 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, 2014 Del. Ch. LEXIS 31.

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. And there are several other standards of value that apply in other types of cases. See, e.g., *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173 (Del. 1985) (target must bargain for highest price reasonably available in any deal involving sale of control); *Klang v. Smith's Food & Drug Centers, Inc.*, 702 A.2d 150 (Del. 1997) (using comparable transaction or comparable company standard rather than book value to determine valuation to determine value for purposes of distribution); *Quadrant Structured Products Company, Ltd. v. Vertin*, 2015 Del. Ch. LEXIS 266 (using potential sales price (FMV) in context of fraudulent transfer case to determine solvency of transferor). See also *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983) (holding that Delaware Block Method should no longer be exclusive method used in appraisal proceedings but 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. UPA 42 (permitting retiring partner to elect interest or profit share). *But see* RUPA 701 (Official Comment) (eliminating right of former partner to share profits).

⁴² See *Longpath Capital, LLC v. Ramtron International Corporation*, 2015 Del. Ch. LEXIS 177 (relying on deal price for appraisal purposes but deducting value of synergies); *In re Ancestry*, 2015 Del. Ch. LEXIS 21; *Huff Fund Investment Partnership v. CKx, Inc.*, 2013 Del. Ch. LEXIS 262, 2013 WL 5878807, *aff'd*,

Indeed, it can be argued that deal price should be *presumed* to be fair for appraisal purposes if it is shown that the negotiation process was *fully fair* under the standard enunciated by the Delaware courts in 2014.⁴³ As I have argued elsewhere, target stockholders cannot reasonably expect any better price in such cases.⁴⁴ 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. In other words, the statute says that a dissenting stockholder has a right to have a court determine the value of target shares.⁴⁵

2015 Del. LEXIS 77, 2015 WL 631586; *Union Illinois 1995 Inv. Ltd. P'ship v. Union Fin. Grp., Ltd.*, 847 A.2d 340, 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 quite 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.*, 1990 Del. Ch. LEXIS 259 at *86 (opinion by Allen). *But see In re Sunbelt Beverage Corp. Shareholder Litigation*, 2010 WL 26539 (Del. Ch. 2010) (rejecting internally agreed buy-back price as stale).

⁴³ See *In re MFW Shareholders Litigation*, 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 phrase *entirely fair* or *entire fairness* is a term of art that means something less or different. See *Weinberger v. UOP, Inc.*, 457 A.2d 701 (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 *MFW* and is thus protected by the business judgment rule.

⁴⁴ See Richard A. Booth, *Majority-of-the-Minority Voting and Fairness In Freeze-Out Mergers*, 59 Villanova L. Rev. Online: Tolle Lege 87 (2014).

⁴⁵ See *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497 (Del. Ch.), *aff'd*, 11 A.3d 214 (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 Supreme Court's rejection of a presumption of fairness seems to have been interpreted as establishing a bright line that cannot be crossed but that 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.⁴⁶ But if the buyer was willing to pay the merger price to all target stockholders, the buyer should at least have 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.⁴⁷ But 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 be enough to get the job done. But if the bidder seeks (say) 85% of the shares in the tender offer (as required under DGCL 203 in hostile deals), it may require a 50% premium to attract sufficient tenders. And needless to say, 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 be higher (because of the lower supply of shares) or lower (because of the looming prospect of self-dealing)? And what if the toehold amounts to a controlling interest? Or meets the 90% standard required for a short-form merger?⁴⁸

To be sure, the foregoing analysis suggests that dissenting (holdout) stockholders might be entitled to higher and higher prices as the public float gets smaller and smaller. 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 the idea that the goal of appraisal is to compensate stockholders for what has been taken from them.

⁴⁶ See *Longpath Capital, LLC v. Ramtron International Corporation*, 2015 Del. Ch. LEXIS 177 (relying on deal price for appraisal purposes but deducting value of synergies).

⁴⁷ See, e.g., *Gearreald v. Just Care, Inc.*, 2012 Del. Ch. LEXIS 91, 2012 WL 1569818 (appraisal price 14.4% less than deal price).

⁴⁸ 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, it is not clear whether a reduction in supply would necessarily lead to an increase in price. Indeed, it is almost certain that a stock with a very small percentage public float will trade at a discount.

After all, if the public has been permitted to buy only 10% (say) 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.⁴⁹

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 is: Premium over what? Is the premium measured by comparison to a *fair* market price, or is the market price depressed because of suboptimal management or 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.⁵⁰

Third, deal price is almost always 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. So deal price should always be a bit lower than going concern value (GCV).⁵¹ And stockholders may want to hold.

There are good reasons to think that most companies are worth more as operating businesses than as assets on the auction block. In other words, if we start from the premise that most companies are well managed, GCV should always be somewhat higher than deal price.⁵²

To be sure, the world is not ideal. There may be many companies out there whose assets *can* be put to better uses. But are such companies the exception or the rule? It is

⁴⁹ See Richard A. Booth, *The Efficient Market, Portfolio Theory and the Downward Sloping Demand Hypothesis*, 68 N.Y.U. L. Rev. 1187 (1993) (discussing effect of supply on IPO prices). Assuming the truth of the downward sloping demand hypothesis (DSDH), 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 that 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 underdiversified.

⁵⁰ See generally Richard A. Booth, *Discounts and Other Mysteries of Corporate Finance*, 79 Calif. L. Rev. 1053 (1991).

⁵¹ See Lawrence A. Hamermesh & Michael L. Wachter, *The Fair Value of Cornfields in Delaware Appraisal Law*, 31 J. Corp. L. 119 (2005).

⁵² This is not to suggest a stark dichotomy between GCV and liquidation value but rather to include even subtle distinctions in strategy that may suffice to justify a change of control.

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 such companies. Indeed, it appears that most deals that give rise to appraisal proceedings are cash-out mergers in which the buyer is a controlling stockholder.⁵³ And 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. So it seems reasonable to think that most merger gains should be seen as inherent in the target company. And *Weinberger* seems to imply as much.⁵⁴ If the motivation for a merger is a bargain price, appraisal makes obvious sense. If the motivation for a merger is that the buyer will redeploy assets to better use, management should have done so in the first place. But stockholders – particularly holdout stockholders – may have invested precisely for this reason – because they saw that the company might be worth more than indicated by the market price. Indeed, one might say it goes without saying.⁵⁵

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.⁵⁶

⁵³ See *generally* Hamermesh & Wachter, *supra*. Cf. MBCA 13.02 (denying appraisal rights for shares of public companies except where buyer is 20% or more stockholder of target).

⁵⁴ *But see* Longpath Capital, LLC v. Ramtron International Corporation, 2015 Del. Ch. LEXIS 177 (relying on deal price for appraisal purposes but deducting value of synergies).

⁵⁵ 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 in putting a lot of eggs in one basket. This suggests the further question whether appraisal may be motivated in part by the policy goal of disgorgement by bidders as well as compensation of investors. See *generally* Hamermesh & Wachter, *supra*.

⁵⁶ Thus, DCF/CAPM may be seen as a kind of arbitration that allows the courts to punt on difficult individualized questions of valuation. As such, appraisal may be compared to the highest price rule of the Williams Act – which requires that all target stockholders in a tender offer be paid the highest price paid to

any stockholder even if the price is raised during the course of the offer. In any event, the law is sufficiently confused about premiums that it is understandable 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 *Le Beau v. M.G. Bancorporation, Inc.*, 1998 Del. Ch. LEXIS 9, at *25 (citing SHANNON P. PRATT, ET AL., *VALUING A BUSINESS* 194-95, 210 (3d ed. 1996); CHRISTOPHER Z. MERCER, *VALUING FINANCIAL INSTITUTIONS* 198-200 and Chapter 13 (1992)); *Nebel v. Southwest Bancorp, Inc.*, 1995 Del. Ch. LEXIS 80 (related case based on breach of fiduciary duty); *Kleinwort Benson Ltd. v. Silgan Corp.*, 1995 Del. Ch. LEXIS 75, at *9; *Borruso v. Communications Telesystems International*, 753 A.2d 451 (Del. Ch. 1999) (adding 30% control premium because comparable company analysis reflects inherent minority discount); *Bomarko, Inc. v. International Telecharge, Inc.*, 1999 Del. Ch. LEXIS 211, at *76 (note14), *aff'd*, 766 A.2d 437 (2000). *But see* *Salomon Brothers Inc. v. Interstate Bakeries Corp.*, 1992 Del. Ch. LEXIS 100 (questioning whether adjustment of comparable companies analysis to correct implicit minority discount is accepted valuation technique).

In several other cases, the courts 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-American Corp. v. Harris*, 603 A.2d 796 (Del. 1992); *Hintmann v. Fred Weber, Inc.*, 1998 Del. Ch. LEXIS 26 (Del.Ch. 1998) (20% premium added to value of subsidiary shares); *Agranoff v. Miller*, 2001 Del.Ch.LEXIS 71, at *51 (note 45.) *See also* *Kleinwort Benson Ltd. v. Silgan Corp.*, 1995 Del. Ch. LEXIS 75 (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.*, 1993 Del. Ch. LEXIS 91; *Salomon Brothers, Inc. v. Interstate Bakers Corp.*, 1992 Del. Ch. LEXIS 100 (both rejecting addition of premium as incorporating post merger value). The courts have also recognized the need to be careful to allocate a control premium over all of the shares. In some cases, a controlling block may be salable 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% percent 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*, 2000 Del. LEXIS 481. Cf. *Perlman v. Feldmann*, 219 F.2d 173 (2d Cir. 1955) (requiring controlling stockholder to share control premium pro rata with minority where 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. In *re Radiology Associates, Inc.* 611 A.2d 485, 1991 Del. Ch. LEXIS 234 at **23 (rejecting adjustment for implicit minority discount in DCF calculation); *Dobler v. Montgomery Cellular Holding Co.*, 2004 Del. Ch. LEXIS 139 at *29-30, 2004 WL 2271592 (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).

So the fact that current 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. So we *can* do better.

Appraisal and Investor Diversification

Still, do we really need appraisal in a world of diversified investors? In some cases, deal price may be too low. But 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, there is 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 in the aggregate. So diversification is no protection for stockholders if buyers do not pay too much just as often as they pay too little. And indeed, it is much more common for appraisal courts to find that the price paid is too low rather than too high.⁵⁷

To be sure, it might be argued that where there is overreaching, a BFD action will follow. But while it may be easy enough to spot looting when it happens, most cases of failure to maximize are difficult to identify and are seldom actionable.⁵⁸ Thus, appraisal may be seen as a second-best solution to a rule requiring maximizing stockholder value.⁵⁹ In any event, if merger gains come mostly from the elimination of discounts because of suboptimal management, appraisal seems to be justified.

⁵⁷ See Charles R. Korsmo & Minor Myers, *Appraisal Arbitrage and the Future of Public Company M&A*, 92 Wash. U. L. Rev. 1551, 1598-1604 (2015) (finding that median awards in appraisal are about 50% more than deal price).

⁵⁸ Indeed, the core debate at the Delaware Supreme Court about the wisdom of *MFW* 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 (Del. 2014) (footnote 14 listing four reasons why the complaint therein would have survived a motion to dismiss). While 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 and Revlon*, the courts nevertheless declined to apply the business judgment rule until *MFW* was decided in 2013 (and affirmed in 2014).

⁵⁹ 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 one finance scholar: Reported earnings is an opinion. Cash flow is a fact. See Pablo Fernandez, *Cash Flow is a Fact*.

Moreover, since bargaining happens in the shadow of the law, appraisal will help drive prices toward fairness. Where there is a robust appraisal remedy, bidders will be induced to pay a fair price up front.⁶⁰ And this is ultimately good for bidders as well as target stockholders. As noted above, appraisal and appraisal arbitration 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 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). In other words, it may be that bidders 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 arbitration? 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.

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.⁶¹

Net Income is Just an Opinion. (November 17, 2015). <http://ssrn.com/abstract=330540> And 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. On the other hand, this approach does not reflect any company-specific factors other than projected return. Rather, it treats all companies as fungible commodities. So it does not compensate a stock-picking investor for any element of value that is peculiar to a given company.

⁶⁰ As Walmart management is wont to say, Walmart reduces prices even for consumers who do not shop there.

⁶¹ 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 of attorney fees in exchange for a disclosure only settlement although it is always possible that defendants may settle a meritless case for some amount less than the cost of defense. See Charles R. Korsmo & Minor Myers, *Appraisal Arbitration and the Future of Public Company M&A*, 92 Wash. U. L. Rev. 1551 (2015). The point is that both petitioners and defendants are in a good position to weigh the true costs and benefits of appraisal litigation.

On the other hand, it could be argued that appraisal arbitrage encourages stockholders to vote against a proposed deal since they know they will get the merger price anyway if the deal succeeds.⁶² But the obvious risk is that the deal may fail if too many stockholders vote NO. (Brexit comes to mind.) Moreover, if the deal succeeds, a stockholder who sells out before closing will almost certainly suffer some discount.⁶³ So there is nothing to be gained from strategic voting.⁶⁴ In other words, appraisal arbitrage encourages stockholders to vote their conscience.⁶⁵

To be sure, it seems quite likely that appraisal arbitrage is encouraged by flaws in valuation practice that tend to result in awards that are too generous. 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.

While 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) going forward. 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 share per year, and I am willing to accept 11% return on that stock, then

From the point of view of the arbs, if the gain is not there, they will not file. Don't do the deal if you can't see the weal.

⁶² See Richard A. Booth, *The New Law of Freeze-Out Mergers*, 49 Mo. L. REV. 517 (1984).

⁶³ Presumably, that discount reflects potential gains from appraisal arbitrage. In other words, the arbs may be willing to pay more if they stand to gain more in the end.

⁶⁴ In a world of appraisal arbitrage, it is fair to presume that every no-voting (and non-voting) 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. The possibility that relatively few dissenters will seek appraisal is effectively eliminated. In the end, more certainty means more deals. Moreover, appraisal arbitrage is likely to focus the attention of appraisal courts for the same reason.

⁶⁵ Thank you Ted Cruz.

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. In other words, we have the data, but we do not know what it means.

Although Jetley and Ji make the obvious point (missed by many) 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.⁶⁶ In other words, market prices today presumably already reflect any adjustment for lower expectations going forward. 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 gravity 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, while it may be that investors expect the future to be similar to the past, it seems more likely that lower expected returns have been offset by a similar reduction in discount rates.

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. While a raw historical rate reflects past returns -- and done deals -- the price of a stock today reflects investor expectations for the future, and the use of a supply-side discount rate is an implicit recognition of that fact.

Jetley and Ji argue in essence that the law misunderstands finance. What they fail to appreciate is that common stock is a package of rights defined by legal rules. In other words, stock is ultimately what the law says it is. Ditto for other securities. So finance ultimately *depends* on law. To be sure, the law responds to practice. And the financial community (and their lawyers) are free to construct other securities to the extent there is value to be created by doing so. But to say that the law and appraisal courts have gotten it wrong is to ignore the very real possibility that the law of appraisal is quasi-normative.

To some extent, the law is based on both what the law is and what the law should be. At the very least, this is a chicken and egg problem. So 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.

⁶⁶ Then again, like the emperor's new clothes, no one else seems to have noticed either.

CONCLUSION

Appraisal arbitrage 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 use of the somewhat lower supply-side discount rate by appraisal courts (as opposed to the somewhat higher raw historical rate typically used by deal advisers) 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 growth and inflation. Simply put, these factors are already baked into the discount rate – the required rate of return reflected by market prices. To reduce the discount rate by these factors – and accordingly to increase appraisal price – is to compensate dissenters as if they would not demand returns commensurate with growth and inflation. Thus, appraisal arbitrage may indeed be encouraged unduly. But the problem is one of valuation practice and not the 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