THE ECONOMICS OF DELAWARE FAIR VALUE

BY BRETT A. MARGOLIN AND SAMUEL J. KURSH

ABSTRACT

The most important and contested component of appraisal rights, the Fair Value standard, receives little attention in the literature on appraisal. While the literature provides theoretical treatments of appraisal's origin and availability, appraisal practice seldom engenders legal battles over such issues. Counsel, judges, and valuation experts, however, routinely grapple with Fair Value's construction as the petitioner's pro rata share of the entire company as a going concern. This article demonstrates that the same economic principles used to explain the economic structure of corporation law create appraisal's Fair Value standard. Fair Value's pro rata exclusion of minority discounts values the petitioner's interest absent managerial agency costs, and supports corporation law's economic function of decreasing corporations' cost of capital and thereby increasing the efficacy of the corporate form.

I. INTRODUCTION

Under Section 262 of Delaware General Corporation Law, a stockholder unsuccessfully opposing a merger on the basis of an insufficient price may petition the court of chancery to determine the stock's "Fair Value." As to what constitutes Fair Value, Section 262's sole guidance specifies that it should be determined with reference to "all relevant factors" and "exclusive of any element of value arising from the

---

*Brett A. Margolin, Ph.D. is a managing economist resident in the Wilmington, Delaware office of LECG, LLC. Ph.D., George Mason University; B.S., University of Delaware. Samuel J. Kursh, D.B.A. is a managing director resident in the Wilmington, Delaware and Philadelphia, Pennsylvania offices of LECG, LLC. D.B.A. and M.E.A. George Washington University; B.E.A. University of Delaware.

The views expressed in this article are those of the authors and should not be construed as the position of LECG, LLC, or any of its professionals besides the authors. The authors wish to thank the Corporation Law Section of the Delaware State Bar Association for inviting us to present this article in the April 20, 2004 seminar: The Delaware Appraisal Statute: Financial and Legal Issues and What Needs Fixing. The authors would specifically like to thank the seminar's participants and panel members, The Honorable William B. Chandler III, The Honorable Stephen P. Lamb, Professor Lawrence A. Hamermesh, Richard D. Heins, Esquire, David A. Jenkins, Esquire, Stephen E. Jenkins, Esquire, Bruce L. Silverstein, Esquire, and Michael A. Weidinger, Esquire, for their insightful questions, comments, and feedback.
accomplishment or expectation of the merger."\(^1\) It has been up to the courts, therefore, to define Fair Value, and reasoning that the "task in an appraisal proceeding is to value what has been taken from the shareholder,"\(^2\) the courts have generally articulated Fair Value as "the pro rata value of the entire firm as a going enterprise."\(^3\)

While the law and economics literature on appraisal rights provides theoretical treatments of appraisal's origin and availability,\(^4\) legal battles over such issues seldom arise in appraisal practice. Instead, appraisals most frequently raise questions of law regarding what valuation methods produce a Fair Value result. In particular, if short of outright challenges of the pro rata requirement, parties often dispute its meaning and practical application. These debates contest whether pro rata necessarily excludes discounts for lack of control, necessitates control premiums in comparable public company analysis, or contradicts the statutory exclusion of synergies arising from the merger. Similarly, discussions of fair or "intrinsic" value found in the broader literature on corporation law often question the validity of distinguishing these standards from fair market value.

This article derives a theory of Fair Value from the fundamental economics of its context, the corporate organization. Economic theory tells us that the firm emerges in response to the transaction costs associated with team production. The corporate form, characterized by the introduction of outside equity investors, evolved to transfer the risk of firm operations from high-cost bearers (management), to low-cost bearers (stockholders), but accomplishes this only at the expense of relaxing hierarchical constraints on managerial malfeasance.\(^5\) Economics accordingly recognizes that the

---

\(^1\)DEL. CODE ANN. tit. 8, § 262(h) (2001).
\(^2\)Cede & Co. v. Technicolor, Inc., 684 A.2d 289, 298 (Del. 1996) [hereinafter Technicolor IV].

\(^5\)As discussed in greater detail infra at note 35, managerial malfeasance as used in the theory of the firm is a non-pejorative term covering the inherent conflict between management's personal incentives and its official obligations to the firm. It refers to issues ranging from a lack
pecuniary returns to a firm depend on whether its management holds all the stock or dispenses some or all of the stock across investors, and that mechanisms reducing this differential reduce the cost of capital and enhance the efficacy of the corporate form.

Hence, corporation law's economic function is to reduce the firm's cost of equity capital through the governance of managerial malfeasance. Appraisal rights serve this purpose by preventing management from forcing the minority to tender its shares at less than Fair Value. Fair Value, therefore, must be defined as the value of a firm if management held all its equity; in other words, if opportunities for managerial malfeasance did not exist.

The Delaware courts' interpretation of Fair Value is strongly consistent with this definition. The exclusion of interest-level discounts, application of control premiums to eliminate implicit minority discounts in public company multiples, and use of weighted average costs of capital (WACC) in discounted cash flows (DCF) all forward the economic function of appraisal. The economic theory of the corporation also defuses many of the logical puzzles invoked by litigants, commentators, and valuation practitioners questioning these holdings, including the market-out's apparent contradiction of the pro rata construction.

II. THE FAIR VALUE DEBATE

As to what constitutes Fair Value, Delaware's sole statutory guidance specifies that it should be determined with reference to "all relevant factors" and "exclusive of any element of value arising from the accomplishment or expectation of the merger." 6 The current construction of Fair Value, therefore, has developed through precedent. The courts have reasoned that Fair Value should "assume the shareholder was willing to maintain his investment position, however slight, had the merger not occurred." 7 Thus, the "task in an appraisal proceeding is to value what has been taken from the shareholder, i.e., the proportionate interest in the going concern." 8

of sufficient effort to appropriation of corporate assets, including insufficient oversight of productive factors, overcompensation, excessive expenditures on management perquisites, entrenchment strategies, and other management actions that benefit management at the explicit or implicit expense of the firm.

7Cavalier Oil Corp. v. Harnett, 564 A.2d 1137, 1145 (Del. 1989).
8Cede & Co. v. Technicolor, Inc., 684 A.2d 298, 298 (Del. 1996). Similarly, Frank Easterbrook and Daniel Fischel, in The Economic Structure of Corporation Law, summarize that appraisal remedy as requiring "that shareholders receive the equivalent of what they give up but
A. The Fair Value Debate in Litigation

Since Weinberger v. UOP, Inc.\(^9\) broadened appraisal's methodology from the Delaware block method to any methodology commonly used in business valuation, the Delaware courts have developed a set of guidelines as to the valuation practices required to determine "the pro rata value of the entire firm as a going enterprise."\(^{10}\) Generally, the courts distinguish Delaware Fair Value from commonly accepted valuation standards such as Fair Market Value. For example, consider the Delaware Supreme Court's observation in Cavalier Oil Corp. v. Hartnett:

Where there is no objective market data available, the appraisal process is not intended to restruct a pro forma sale but to assume that the shareholder was willing to maintain his investment position, however slight, had the merger not occurred. Discounting individual share holdings injects into the appraisal process speculation on the various factors which may dictate the marketability of minority shareholders. More important, to fail to accord to a minority shareholder the full proportionate value of his shares imposes a penalty for lack of control, and unfairly enriches the majority shareholders who may reap a windfall from the appraisal process by cashing out a dissenting shareholder, a clearly undesirable result.\(^{11}\)

Specifically, the courts exclude the application of "minority" or "lack of control" discounts as well as other interest level discounts, including those for lack of marketability, that are generally applied under the Fair Market Value standard. The courts also rule that stock market data can include an "implicit minority discount," and accordingly permit the application of "control premiums" in comparable public company analyses. Comparable merger and acquisition analysis is permitted. Discounted cash flow analyses using debt-free (unlevered) cash flows and the firm's WACC are recognized as producing values consistent with the pro rata value. To arrive at the Fair Value of common stock, the courts generally allow for the

---

\(^9\) 457 A.2d 701 (Del. 1983).


\(^{11}\) Cavalier Oil Corp., 564 A.2d at 1145.
Fair Market Value of senior securities to be deducted from the Fair Value of the entire firm.

From a valuation practice perspective, these rulings have effectively established Fair Value as roughly equivalent to "control value" in the classic Levels of Value chart reproduced in Figure 1. It is this characterization that generates most of the practical and theoretical debate regarding Fair Value, which receives additional fuel as a result of the three-tiered nature of the analysis. A court must make legal sense of valuation practice, which turns correct application of its economic foundations. The pivot in this system, the valuation professional, is typically a practitioner as opposed to a theorist. This individual may correctly execute the procedures that compose the practice, but poorly articulate, or be completely unaware of, the underlying economic concepts.

```
Investment Value

Fair Market Value
(Marketable Controlling Interest)

Synergistic Value

Control
Premium

Minority
Discount

Fair Market Value
(Marketable Minority Interest)

Discount for Lack of Marketability

Fair Market Value
(Nonmarketable Minority Interest)
```

Figure 1: Levels of Value

Fair Value's pro rata requirement exposes a substantial gap between the valuation practitioner's professional understanding of levels of value and their theoretical origins. Valuation professionals typically speak of control as an asset held by its owner in the form of prerogatives, and minority interests as lacking this asset and its associated value. Further, valuation professionals typically express concepts in terms of hypothetical

\[\text{See, e.g., Shannon Pratt et al., Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 44, 300-03 (3d ed. 1996).}\]
transactions, explaining how a hypothetical buyer would use the subject interest, and thereby what price it would receive. While not necessarily inconsistent with the economic origin of discounts for lack of control, and perhaps a useful means of communicating discounts and premiums to the unininitiated, these characterizations grate against the language of the appraisal statute and the court's explicit prohibition of values based on "pro forma sales." As will be established below, the prerogatives of control are best understood not as creating firm value, but preserving it in a way completely organic to the economic structure of the firm.

These explanatory devices often supplant valuation's official discount and premium definitions. The International Glossary of Business Valuation Terms defines the discount for lack of control as "an amount or percentage deducted from the pro rata share of value of 100% of an equity interest in a business to reflect the absence of some or all of the powers of control," and control premiums as eliminating this discount. Superficially, at least, the exclusion of minority discounts seems harmonious with the pro rata conception of Fair Value. Much of the practical debate over minority discounts and control premiums, therefore, results from want of prepositions: a minority interest reflects a discount from the interest's proportionate share of the entire firm, and the control premium applies to the minority value to remove its discount and arrive at the value of a 100% equity.

Prepositions alone, however, cannot overcome practitioners' inability to coherently explain why minority interests trade at discounts from their proportionate share of a 100% interest. Thus, even those acknowledging these definitions continue to challenge the control-level conception of Fair Value. Among the most common theoretical challenges to the current exclusion of minority discounts and application of control premiums are: the "Minority Windfall" and "Missing Market Value" puzzles and "Market-Out Contradiction." The Minority Windfall Puzzle accepts that a minority interest sells at a price reflecting its status, but asserts that a Fair Value award exceeding this price constitutes a minority windfall. If appraisal exists to return what is taken from the shareholder, is not the answer the value of its minority position? The Market-Out Contradiction bolsters this position by observing that the statute denies appraisal to actively traded stocks. If stock markets necessarily value stocks at minority levels, then does not the market-out suggest that the statute defines Fair Value as the Fair Market Value of a minority interest?

The Missing Market Value Puzzle contends that the premiums observed in control transactions of public companies reflect not discounts for lack of control, but the returns to replacing inefficient management, and that such value is prohibited under Section 262's exclusion of post-merger synergies. This argument continues that efficient capital markets will eliminate the systematic undervaluation of stocks, so that publicly traded companies do not trade at discounts for lack of control. The puzzle asks why, if minority interests trade at less than the value of their proportionate interest, does the market not concentrate these holdings into controlling interests and capture the added value?

Beyond the conceptual issues lie practical dilemmas. Minority discounts are commonly measured by comparing the prices at which public companies are acquired to their market price immediately preceding the merger announcement. Given that the vast majority of mergers appear to be strategic, and often publicly profess to an expectation of synergies, to what extent do the premiums commonly ascribed to control actually reflect the value of post-merger synergies specifically prohibited in the appraisal statute? In combination with the reasoning of the Missing Market Value puzzle, some answer that the entire premium reflects synergistic value and is so transaction specific as to thwart generalized application as discounts or premiums.

The superficial convergence of minority discount and Fair Value definitions does not demonstrate consistency in their conceptual origins. In evaluating Fair Value's pro rata construction, the relevant question is three-fold: (1) what is the conceptual source of the minority discount, (2) when and where is this discount observed, and (3) why should it be excluded from Fair Value?

B. Theories of Appraisal and Fair Value

The literature on appraisal rights largely focuses on the statute, ignoring the Fair Value standard developed in the case law. To the extent that Fair Value is directly addressed, the financial-oriented approaches tend to echo the contention of litigants—or more accurately, litigants tend to echo the contention of commentators—that in an efficient market the price of a stock must converge to its proportionate interest in the firm. This
theme is also found in the literature of valuation practice,\textsuperscript{15} while the more rights-oriented approaches deny the efficiency of capital markets.

Most prominent among the competing theories of appraisal rights is the law and economics approach of Fischel,\textsuperscript{16} which appears essentially unchanged in Easterbrook and Fischel. It reflects favorably on the appraisal statute. Fischel recognizes that if appraisal required sharing of the gains resulting from the transaction, it would dilute the incentive of the (ex-post) controlling shareholder to pursue efficient mergers; yet if it allowed minority shareholders to be divested of their investment at less than the full value of their interests prior to the merger, it would reduce the availability of capital and decrease efficiency. Thus, the appraisal statute "implements the Pareto principle of welfare economics: it ensures that corporate control transactions increase value by seeing to it that the transaction makes no one worse off."\textsuperscript{17}

Fischel characterizes appraisal as "a presumptive contractual term setting the minimum price at which the firm may be sold in situations where those in control are tempted to appropriate wealth . . ."\textsuperscript{18} Therefore, appraisal's principal effects occur \textit{ex ante} and increase the welfare of all shareholders.\textsuperscript{19} Specifically,

dominant investors want to constrain their later conduct in order to realize the best price at the outset. Appraisal, reducing the probability that the minority's shares will be acquired at a price unilaterally set by the majority, increases the price the minority will pay for the shares to the benefit of both the majority and the minority.\textsuperscript{20}

By reducing the risk of wealth appropriation, appraisal decreases the risk associated with minority investments, thereby increasing the price investors


\textsuperscript{16}Fischel, \textit{supra} note 4, at 875.

\textsuperscript{17}EASTERBROOK \& FISCHEL, \textit{supra} note 4, at 145.

\textsuperscript{18}Id.

\textsuperscript{19}Id.

\textsuperscript{20}Id. at 146.
are willing to pay for a minority interest and decreasing the firm's cost of capital.

Fischel is less comfortable explaining the statute's market-out exception, which denies appraisal rights to actively traded stocks. After accurately dismissing some common criticisms of the market-out, Fischel concludes that "the real problem is that the stock market exception is inconsistent with the function of appraisal—establishing a reservation price."\textsuperscript{21} More specifically, the problem of the majority "being able to appropriate wealth from the minority \textit{ex post}, causing the minority to be willing to pay only a low price for the shares \textit{ex ante}"\textsuperscript{22} is not solved when a petitioner's "shares are publicly traded or if the owners receive shares that are publicly traded."\textsuperscript{23} Reasoning that cash-out mergers are the most likely forum for misappropriation of minority value, Fischel argues that Delaware's cash-out exception, which reinstates appraisal rights if any of the consideration is in a form other than publicly traded equity, at least partially solves this problem. Importantly, Fischel observes that the cash-out exception undermines the traditional view that appraisal's main goal is an \textit{ex post} provision of a judicial market to price nonmarketable securities. Fischel contends, if this is the purpose of the market-out exception, then surely "the clearest case for denying appraisal rights would be when the consideration received was cash, the most liquid form of investment."\textsuperscript{24} Ultimately, Easterbrook and Fischel recognize that this explanation departs from the ideal, but note that no one ever contended that the legal process was ideal.

Of greater concern, however, the Fischel explanation is \textit{ad hoc}; it fails to explain the market-out within its economic framework. It is also far from clear that an opportunistic manager prefers to cash out a minority because a cash-out transaction requires a cash outflow and eliminates the ability to take advantage of the minority a second time. This explanation is also \textit{ex post} in nature—the cash-out as a red warning flag—while the rest of the analysis focuses on the \textit{ex ante} effects.

Other theories include those interpreting appraisal as compensating investors who place idiosyncratic value on their holdings,\textsuperscript{25} or permitting stockholders to be cashed out when strategic changes in corporate focus alter the firm's risk profile.\textsuperscript{26} The former neatly explains the market-out

\textsuperscript{21}EASTERBROOK & FISCHEL, supra note 4, at 150.
\textsuperscript{22}Id. at 150.
\textsuperscript{23}Id.
\textsuperscript{24}Id. at 150-51.
\textsuperscript{25}See, e.g., Kanda & Levmore, supra note 4.
\textsuperscript{26}See, e.g., Letsou, supra note 4.
exception by noting that public markets remove idiosyncratic valuations, while the latter similarly argues that efficient markets lessen the impact of changes in individual risk profiles. These theories are unpersuasive for a number of reasons cited in the literature, but more importantly because they cannot explain Fair Value. Both theories imply that appraisal provides for petitioners to receive the "Investment Value" of their interest—the value of the stock to a particular owner. This is completely inconsistent with the Fair Value standard. Moreover, this flaw has remained unaddressed because the literature does not concern itself with the law of Fair Value.

The only author thus far to more than tangentially address Fair Value has been Barry M. Wertheimer,27 but his approach is essentially tautological. He accepts that minority discounts exist and argues that any award of less than the minority's pro rata interest creates a majority windfall. This theory, though, does not address the source of the minority discount and why it should be excluded in the Fair Value approach. Indirectly, Wertheimer appears to believe in the inefficiency of public capital markets, calling for the complete elimination of the market-out exception by contending that market prices deviate from Fair Value as a result of volatility and management manipulation.

Fischel, with strong economic grounding, rejects such claims.28 Fischel’s treatment of appraisal, however, only tangentially addresses the law of Fair Value. In large part, this may reflect that Fischel’s article appeared immediately following Weinberger, and consequently before the development of much of the Fair Value case law. Easterbrook and Fischel published ten years subsequent to Weinberger, but its chapter on appraisal introduces no new commentary with respect to Fair Value. Commenting on the old Delaware block method, both texts observe:

If a market price can be observed that is uninfluenced by the transaction being dissented from, this market price is the best evidence of the value of the dissenter’s shares. Separate inquiry into earnings or net asset values is redundant. As long as securities markets are efficient, these values are impounded in market prices . . . .

The principal difficulty with relying on market price is the one that concerned us in dealing with the market-out to appraisal: the price may have been influenced by the

28 Fischel, supra note 4, at 875.
transaction being dissented from. The minority-held shares of a subsidiary, for example, will not trade for a higher price than the expected acquisition price discounted by the probability of occurrence unless some greater amount will be available in an appraisal. But if the prevailing market price is the standard for appraisal, the prospect of appraisal will not affect the market price. Appraisal will then be meaningless and its value in facilitating efficient actions is lost.29

Elsewhere, Easterbrook and Fischel address, and deride, the concept of intrinsic value with reference to appraisal and the Delaware block method. Although appearing in Easterbrook and Fischel's discussion of tender offer defenses, and substantially appropriate in this context, the following criticism of "intrinsic value" also condemns the Fair Value standard:

That there is a difference between market and "intrinsic value" is an old theme in Delaware cases. The "Delaware bloc[k]" method of appraisal gave market prices only partial weight in determining the true value of a firm's stock. . . . [N]either logic nor data supports the belief that there is a difference between the current price and intrinsic value. If a firm has a particular value, the market will reflect it; anything bidders can see, professional investors can see too. All of the predictions of the intrinsic value approach—that the price of firms defeating offers exceeds the bid, that announcements reducing short-run profits but adding long-run value depress stock prices and so on—turn out to be false. Not a scrap of data supports the position taken in the Delaware cases. It is depressing to see "earth is flat" reasoning from our premier corporate court . . . .

Talk is cheap; anyone can project intrinsic value; when projections are backed by money the most accurate prevail. The gap is not between current and intrinsic value but between a market measure of value, embedded in price, and speculation.30

29EASTERBROOK & FISCHEL, supra note 4, at 154-55.
30Id. at 206-07.
Easterbrook and Fischel rightly condemns claims, often made by management in opposing a hostile takeover, that the market price of an actively traded company somehow understates the intrinsic value of its shares. Such contentions necessarily assume inefficient capital markets, and have been refuted. A stock's volatility reflects the market's reaction to new information affecting the value of interests in the company, either due to factors affecting the projected earnings power of the company or factors affecting the value of equity interests in the company. Yet, as we shall see in the next section, the statement that "if a firm has a particular value, the market will reflect it" contradicts the economic theories of the firm upon which Easterbrook and Fischel rely.

III. AN ECONOMIC THEORY OF FAIR VALUE

Easterbrook and Fischel's theory of corporation law, including appraisal, originates in the economic theory of the firm. A review of this theory clearly demonstrates the origin and purpose of Fair Value's pro rata standard and provides a consistent framework for analyzing the puzzles and problems raised in both scholarly and practical applications of appraisal.

A. A Primer on the Economic Theory of the Corporation

Economics characterizes the firm as a "nexus of contracts" that evolves to reduce the "transaction costs" impeding firm productivity. More than the explicit costs of contracting, transaction costs refer to the implicit "agency costs" of teams. Economic agency is the tasking of one individual with the pursuit of another's objective, and the divergence between the former's personal objective and the agency task is the cost of agency relationships. In team production, all members benefit from the increased productivity overall, but also benefit from personal performance shirking. While the individual accrues all the benefits of personal underperformance, the costs of shirking are spread across the team. Addressing such transaction costs is costly—there is no such thing as a free lunch—and, more often than not, reducing one transaction cost occurs at the expense of raising another. Firm structure, therefore, represents a series of organization innovations designed to address agency costs.  

31Id. at 207 (emphasis added).
The corporate firm initially emerges to address the agency costs created when a single individual provides both the managerial and risk-bearing functions of the firm, as occurs in the classical firm's "owner-operator" structure. To deter shirking, the manager monitors the performance of and meters the rewards to the productive factors. The classical firm compensates the manager with a claim on the firm's residual—the cash remaining after the firm compensates all other factors in relation to their productivity—as a sufficient condition to guarantee managerial performance. Holding the residual claim, the classical manager accrues all the benefits of managerial efficiency, and thereby bears all the costs of residual dissipation through either shirking of managerial responsibility or the diversion of firm assets. The classical firm minimizes the impact of shirking, therefore, by creating a manager with personal incentives impervious to it, and putting this person in charge of monitoring the performance and metering the rewards of the firm's productive factors.\(^\text{33}\)

The residual, however, also reflects the inherent risk of the firm's operations. Effective management of the firm may entail investing—foregoing current period residual to increase the expected residual in future periods. In the presence of operational risk, the manager rationally trades firm value for greater security in his personal wealth, of which the firm constitutes a significant portion. Thus, so long as the residual is subject to risk, the management innovation addresses agency costs in the productive team only by creating agency costs resulting from the divergence between the manager's rational risk aversity and the firm's preference for risk neutrality. Managerial risk aversity not only reduces the value of the residual, but also the income of its productive factors, which, like the value of the firm, is maximized by risk-neutral decision-making. The manager's risk-averse divergence from optimal, risk-neutral decision-making is the price the classical firm pays to insure its risk. If the firm can develop more efficient risk-bearing technology then, \textit{ceteris paribus}, it can reduce this cost and generate greater factor productivity and residuals.\(^\text{34}\)

\(^{33}\)See Alchian & Demsetz, supra note 32.

\(^{34}\)See Eugene F. Fama, \textit{Agency Problems and the Theory of the Firm}, 88 J. OF POL. ECON. 288 (1980), available at http://www.jstor.org/view/00022388/di951000/95p0004u/0?frame=noframe&userID=931f042e@widener.edu/01cee4403561f21022cb2f173&dpi=3&config=jstor (last visited Feb. 19, 2005); Jensen & Meckling, supra note 32.
The corporate innovation recognizes that outside investors possess risk-bearing technology superior to that available to management. Unlike, the classical manager, the stockholder maintains a diversified portfolio of investments that avoids tying a significant portion of its wealth to any one firm, and instead takes relatively small positions in a multitude of firms. The returns across portfolio holdings are also, to varying extents, negatively correlated, so what is bad news for one investment may be good news for the other. The value of the portfolio, therefore, varies only as a result of its systematic, or "Beta," risk; the sensitivity of the portfolio's value to movements in the economy as a whole. The investor manages the portfolio's Beta risk by selecting investments based on the impact their individual Betas have on the Beta of the portfolio. The investor views unsystematic, business-specific, or "Alpha," risk, neutrally due to the small position it takes in any given company and the negative correlation of such risk across companies. This does not, however, render stockholders insensitive to unsystematic risk—they still require returns that will compensate them, on a risk-neutral basis, for bearing the firm's unsystematic risk. The efficiency of the corporate form, therefore, relies on replacing management's subjective over-sensitivity to operational risk with, at the limit, investors objective sensitivity. Transferring operational risk from high-cost risk bearers, management, to low-cost risk bearers, stockholders, the corporate form improves productivity, ceteris paribus, by reducing the price that it must pay to insure its operational risk.

The corporation only accomplishes this feat, however, by introducing the potential of managerial shirking and misappropriation of corporate assets. The corporation removes management's classical performance incentive to attenuate shirking and replaces it with, ceteris paribus, ample opportunity to actually appropriate stockholder's equity; not just dissipate the value of the residual claim through inefficient management of the firm. Corporate management consequently becomes susceptible to a moral hazard that, in contrast to the shirking of productive factors, yields substantially higher gains and is not effectively confronted through hierarchical or transactional mechanisms. Consequently, outside

35 Investors have no effective means of reducing managerial malfeasance. The diversified portfolios that make stockholders particularly efficient bearers of operational risk render them particularly inefficient bearers of the risks associated with managerial malfeasance. Maintaining relatively small positions in any one company, stockholders do not rationally invest in monitoring management performance. Stockholders, therefore, typically are not effective monitors of management. The right to replace management suffers from a rational paucity of information, which also results in boards of directors comprised mainly of management insiders, who possess substantial informational advantages over any outside directors. Stockholders, in short, lack effective mechanisms for detecting, avoiding, and punishing managerial malfeasance, and instead,
investors rationally pay less for an interest than its *pro rata* claim on the firm's residual capacity because they recognize that their purchase affects the way management will allocate this capacity between the residual shared with investors and exclusive nonpecunary benefits.

Figure 2 allows us to visualize how the market value of a firm changes when it goes from being entirely held by the manager to obtaining outside equity. Suppose the firm operates for just one period and is capable of generating free cash of \( F \) with zero risk. The solid line represents the firm's "budget constraint," the dollar-for-dollar tradeoff between expenditures on nonpecuniary benefits and the firm's residual. If the manager holds the entire residual claim, then the sold line in Figure 2 is also the manager's personal budget constraint. Accordingly, the manager allocates free cash between the residual and benefits based on personal preferences, as represented by Point A in Figure 2. The residual of the firm is \( R^C \). If the manager sells the residual claim to another manager, the sale price will be between \( F \) and \( R^C \), depending on the extent to which the buyer can observe the nonpecuniary allocation of the seller.

simply capitalize its expected costs into stock prices.

The structure of the corporate transaction also cannot control managerial malfeasance. The equity raised by a company effectively constitutes the corporation's policy limit; the amount of risk investors are willing to insure given their assessment of the corporation's ability to pay competitive premiums. As such, it is far more efficient to *ex ante* collect relatively small amounts from each of the dispersed group of stockholders than to attempt to *ex post* enforce and collect on pledges to pay. Stockholder tender equity up-front to guarantee their performance of the risk bearing function. To see why, consider the difficulty and potential for opportunistic behavior on the part of shareholders that would arise if shareholders simply made promises to pay cash shortfalls relating to variance in the firm's operational performance. Each collection on the policy would require the company to file separate "claims" with each shareholder, and would have to enforce collection. Obviously, the investors' preference for transferability complicates this process further. Further, given the fact that management would rationally expect that it would fail to collect a substantial portion of the pledges, this system would continue to expose management to significant risk.
Let us now examine what happens to this illustration if the manager sells a thirty percent stake in the company's residual. The capital stock is fixed and the firm's free-cash capacity is unchanged; the manager sells thirty percent of the residual claim to outsiders and personally receives the proceeds. What will these proceeds be? The answer is that they must be less than thirty percent of $R^C$ because rational investors recognize that the manager's personal calculus will change. The firm continues to realize $F$ in free cash that the manager can allocate between residual and nonpecuniary benefits as he or she sees fit, but the manager personally realizes only $0.70 of every dollar allocated to the residual while exclusively consuming expenditures on nonpecuniary benefits. The manager's personal budget constraint no longer follows that of the firm, but pivots and flattens out as depicted by the dotted line in Figure 2. If the manager was indifferent between one more dollar of residual and one more dollar's worth of nonpecuniary benefits at Point A, that point of indifference on the dotted line must be to the right of Point A at a position like Point B'. Transferring the Point B' allocation of nonpecuniary benefits to the solid line, we observe that the firm's value has dropped to $R^M$, so the manager's proceeds from the sale of a thirty percent interest in the firm,
therefore, will be only thirty percent of $R^M$. The difference between $R^C$ and $R^M$, then, is "the reduction in market value of the firm engendered by the agency relationship."\(^{36}\)

B. An Economic Theory of Fair Value

$R^C$ is the value of a 100% interest in the firm. $R^M$ is the value of the firm if a portion of its residual claim is sold to one or more outside investors. The difference between these two values is the origin of the discount for lack of control: the decrease in value resulting from rational investors' capitalization of expected agency costs into stock prices.

In Figure 2, we note that at the onset of the minority relationship, the manager bears the financial burden of expected agency costs. Rational investors price securities by netting expected agency costs against the value of their interests' proportionate claim on the firm's potential residual. In the risk-free world used to draw Figure 2, therefore, any sale comprising less than 100% of the firm's equity makes the manager worse off, and the corporate form does not exist. In a risk-laden world, however, managers will adopt the corporate form only to the extent that stockholder's risk neutrality lowers the cost of capital by more than their expectations of managerial agency costs raise the cost of capital. Corporations must either accept less risk transference at a higher cost, or establish mechanisms to reduce minority shareholder's expectations of agency costs.

Easterbrook and Fischel cast corporation law in this role. Corporation law is a bundle of mechanisms designed to reduce managerial agency costs and thereby reduce the corporation's cost of capital. Since rational investors price stocks net of expected agency costs:

The founders of the firm will find it profitable to establish the governance structure that is most beneficial to investors, net of the costs of maintaining the structure. People who seek resources to control will have to deliver more to investors. Those who promise the highest returns—and make the

\[^{36}\text{JENSEN, supra note 32, at 97. This finding that a firm's value varies with its capital structure is entirely consistent with the famed Modigliani-Miller Theorem's holding that, absent transactions costs, firm value is independent of capital structure. Modigliani-Miller explains that, in an economic vacuum, capital structure is irrelevant, but also recognizes that, in the real world, capital structure does appear to matter. The theory of the firm explains first the transaction costs that cause the real to diverge from the ideal, and then how economic institutions evolve to approach the ideal. Since these innovations are costly, the evolution is asymptotic to the ideal. Effectively, Modigliani-Miller establishes that, absent transaction costs, }R^C\text{ is the firm's value regardless of capital structure.}\]
promises binding, hence believable—will obtain the largest investments.

The first question facing entrepreneurs is what promises to make, and the second is how to induce investors to believe them. Empty promises are worthless promises. Answering the first question depends on finding ways to reduce the effects of divergent interests; answering the second depends on finding legal and automatic enforcement devices. The more automatic the enforcement, the more investors will believe the promises.37

Corporation law, therefore, is a bundle of promises designed to narrow the difference between RC and RM. At its core, corporation law's fiduciary promise commits management to eschew its personal budget constraint, Figure 2's dotted line, in preference to the firm's budget constraint, Figure 2's solid line. Appraisal enforces this promise when the shareholder-firm relationship terminates in a merger. If Fair Value awarded RM, it would not only fail to enforce the fiduciary promise that narrows the ex ante gap between RC and RM, but widen it; the greater the expectation of agency costs, the less management would have to pay to acquire the minority, so management would rationally invest in creating greater agency costs. To enforce the corporate contract, therefore, Fair Value must be the value of a 100% interest in the firm.

IV. REEVALUATING THE FAIR VALUE DEBATE

Of the three questions posed above, we have answered the first and third. The conceptual basis of minority discounts is the inherent agency conflict that arises when the corporation dilutes management's classical claim on the residual, and to enforce the corporate contract Fair Value must exclude such discounts. Answering the second question, when and where are such discounts observed, allows us to begin cogently addressing the debate over Fair Value's proper application.

The argument that public capital markets price minority interests at control confuses market efficiency with market perfection. It is true that the normal functioning of product, labor, and capital markets constrains

37EASTERBROOK & FISCHEL, supra note 4, at 4-5.
managerial malfeasance. Firms suffering from agency costs will likely find themselves at a competitive disadvantage in their product markets, making it harder for the companies to raise capital and exposing them to the market for corporate control. Acquirers of these companies will replace ineffective management, who in turn will suffer in the market for managerial labor. To avoid losses in income, future prospects, and any firm-specific human capital, management will abstain from malfeasance. Such market-originated constraints are pervasive and efficient, but only efficient. Markets are not perfect, just efficient in balancing the benefits of superior information with the costs of obtaining such information. Consequently, efficient market prices of minority interests always reflect the potential that agency costs will diminish the firm's value because information and enforcement are costly and subject to risk.

This development gives rise to the Missing Market Value puzzle: why, if outside equity decreases the value of the firm, does someone not role up these interests and increase the value of the firm? This puzzle suffers from a free-lunch fallacy in assuming that the concentration of minority interests occurs costlessly. As we have seen, the concentration of such interests also concentrates the firm's operational risk, eliminating the agency costs of managerial shirking and appropriation only at the expense of increasing the agency costs of managerial risk aversity. The minority discount's expectancy of agency costs is the price the firm pays to insure its risk. There is no missing market value.

We can now consider the Minority Windfall puzzle. Between the time of the initial promise and the termination of the shareholder-firm relationship, shareholders will rationally price their holdings at less than their pro rata claim to reflect the risk of current and future malfeasance and the infeasibility of governance mechanisms completely eliminating such actions. In the final period, appraisal holds management to its promise. Fair value is not a windfall for the minority because the minority paid for the Fair Value promise at the outset, but rationally discounted its value to account for the costs of enforcing that promise. The difference between

---


39Control transactions at discounts from public market prices are no exception. There are a number of explanations for this phenomenon, particularly as it applied to technology companies in 1999, including tax effects and the level of activity in the subject stocks' public markets. While these explanations are a topic for a different article, suffice it to note that other explanations of the discounts exist and that the observation of such transactions does not impinge the central concept that minority interests will always price their stock with the expectancy of agency costs.
Fair Value and fair market value compensates shareholders for carrying the firm's operational risk subject to the risk of managerial malfeasance.

Alternatively, consider an appraisal award of fair market value. At the outset, the firm induces a greater price from minority investors only by promising to maximize the pecuniary returns to the firm, requiring the minimization of agency costs. If the corporation obtains higher prices based on this promise, and the court fails to enforce it, then a windfall is created for the \textit{(ex post)} majority. Further, such a ruling diminishes the effectiveness of the corporate contract, and increases the corporation's cost of capital \textit{ex ante}. If prohibited from obtaining Fair Value at the termination of the relationship, then investors will simply pay less at the outset. The return to shareholders is unchanged by whether Fair Value prices stock absent or given agency costs, but the availability of capital diminishes if Fair Value allows minority discounts, and the corporate form is less effective.

Lastly, the market-out can now be consistently explained. Previous contributions have struggled to explain the market-out within the framework of their analysis. These problems likely originate in attempts to explain why the statute accepts market value as Fair Value for actively traded firms. These approaches generally argue that it is because there is no difference between market and Fair Value of actively traded stocks, either because the market eliminates minority discounts or individual shareholder's idiosyncratic valuations.

Within the framework of our analysis, however, it is clear that the previous analyses have asked the wrong question. The statute does not equate Fair Value to fair market value, but simply recognizes that the shareholder-firm relationship has not been terminated, so appraisal has not been triggered. A pure equity exchange results in a continuing equity relationship, and the shareholder continues to bear the firm's operational risk at a price discounted for expected future agency costs. Further, at the time of merger, the expected agency costs faced by the acquired and acquiring stocks are the same. This explains the cash out exception: if the minority is cashed out, then this relationship is terminated, and the firm must make good on its promise.

This logic, however, also applies to equity exchanges between nonpublicly traded companies, so why is the exception a market-out rather than an equity-out? The market prices of actively traded stocks are the best indicators of their fair market value, so it is appropriate to defer to the market's valuation of the acquired and acquiring shares. For inactive companies, a rejection of appraisal rights amounts to an acceptance of not just the value of the acquired company, but the acquiring company as well. The dissenting vote effectively disputes one or both of these values. In
such a situation, terminating the petitioner's relationship with the acquired firm through an appraisal cash-out requires the valuation of only one firm, while replicating the merger's consideration requires a continuing equity relationship and the valuation of both firms so to assess the appropriate exchange ratio. While granting a cash-out appraisal is far more efficient, it terminates the equity relationship, and thereby requires the Fair Value standard.

IV. Fair Value

This section derived a theory of Fair Value from the fundamental economics of its context, the corporate organization. Economic theory tells us that the corporation balances the risk-bearing efficiencies of minority interests with the resulting inefficiencies of managerial malfeasance. The efficacy of the corporate form depends on its ability to minimize the latter to take advantage of the former. Corporation law in general, and appraisal in particular, are intended to be binding promises serving to reduce expectations of managerial malfeasance at the outset. So long as the shareholder-firm relationship continues, the potential for future agency costs persists, and discounts for lack of control apply. At the termination of this relationship, investors can no longer be compensated for bearing the risk of agency costs and higher future returns, and the firm must make good on the promise it made at the outset. Fair value is accordingly the value of a 100% interest in the company.

The Delaware court's prohibition of discounts for lack of control, recognition that public stocks reflect such discounts, application of control premiums to eliminate such discounts, and acceptance of comparable merger and acquisition data are all supported by the underlying economics. Similarly, the courts' comfort with discounted cash flow analysis likely reflects the method's explicit treatment of firm cash flows. Consistent with its positions regarding market methods, the court discounts cash flows at the firm's WACC as opposed to its cost of equity.

V. Conclusion

Fair value's pro rata construction is not well understood. Largely overlooked in the academic literature on appraisal, incompletely analyzed in valuation literature, and poorly explained by testifying experts, the purpose of the pro rata standard and the valuations practices consistent with it have become the most contested elements of appraisal. Focused on explaining the right of appraisal, the academic literature overlooks its Fair Value enforcement mechanism, often resulting in theories of appraisal
contradicted by the standard. Valuation professionals' penchant for explaining practices in terms of hypothetical transactions fails to articulate the conceptual origin of minority discounts, and, in doing so, fails to explain their relation to the corporate contract and creates the perception that control premiums conflict with other principles of Fair Value.

This article identifies the economic origins of minority discounts and demonstrates that corporation law shares these roots. Contrary to the standard practical explanations, control does not create firm value but preserves it, and not within the context of a hypothetical transaction, but through means organic to the firm. The corporate innovation reduces the agency cost of managerial risk aversity by paying risk-neutral outside investors to bear the firm's operational risk. These investors recognize that in diluting management's residual claim, agency costs relating to managerial shirking and appropriation emerge, and incorporate these expected agency costs into price of the stock. The greater investors' expectations of agency costs, the greater the difference between the price they will pay for an interest and its proportionate share of a 100% equity interest in the firm. The firm, seeking to minimize this difference, writes a corporate contract eschewing agency conflict through fiduciary promises and enforcement mechanisms, including appraisal rights. Since minority discounts result from expectations of future agency costs, appraisal must exclude such discounts to enforce the promises by which the corporation induces higher stock prices. Fair value must be defined as the value of a firm in the absence of managerial agency costs; the minority interest's pro rata share of a 100% equity interest.

Consistent with the economic theory of the corporation, the Delaware courts have defined Fair Value as exclusive of agency costs, as a minority interest's pro rata share of the value of a 100% equity interest. The common criticisms of this definition, therefore, result from an incomplete understanding of the corporation. Fair Value's exclusion of minority discounts does not constitute a minority windfall because in its absence the minority would simply pay a lower price at the outset. In addition, because minority discounts reflect expected agency costs that are costly to mitigate, stock prices in efficient capital markets must incorporate minority discounts, so the courts have correctly required application of control premiums to offset the implicit minority discount in public-market stock prices. Similarly, one cannot increase the value of a randomly chosen public corporation by concentrating its minority interests because its capital structure efficiently balances the agency costs of risk aversity with those of shirking and appropriation. The difference between such a company's Fair Value and fair market value is the price the company pays to insure its risk; there are no unexploited value creation opportunities.
While a complete treatment of the corporate form's economics lays to rest the conceptual debate over Fair Value's *pro rata* requirement, practical dilemmas remain. The court's have appropriately excluded minority discounts, required control premiums, permitted comparable merger and acquisition analysis, and have generally applied discounted cash flow practices consistent with control-level values. As in any practical application of theory, however, the execution of this valuation guidance often depends upon the use of estimates. Control premiums are typically measured as the difference between the share price at which control of a public company is acquired and its market price immediately preceding the announcement. To the extent that the acquisition price reflects synergistic values, the measure overstates the control premium, while to the extent the pre-announcement price may reflect expectations of the announcement, the measure understates the premium. Even in those rare instances when the financial reasoning of such mergers are completely transparent, the distinction between the gains related to reductions in agency costs, and thereby consistent with Fair Value, and those related to post-merger synergies, may be far from clear.

At best, this article's economic theory of Fair Value will reduce the scope of debate over Fair Value. This article may help counsel provide financial experts with clearer guidance as to the legal standard of Fair Value and better evaluate their experts' reports. Although this theory cannot resolve the debate over measurement issues, it can, perhaps, clarify them. Ultimately, the estimation of control premiums and application of comparable merger and acquisition data must be decided on a case-by-case basis as the courts determine whether the results of a given analysis meet the evidentiary standard.