ARTICLES

TAKING FINANCE SERIOUSLY: HOW DEBT FINANCING DISTORTS BIDDING OUTCOMES IN CORPORATE TAKEOVERS

Robert P. Bartlett III*

Economic analysis of corporate takeovers has traditionally advocated legal doctrines that ensure a target company in a takeover contest is acquired by the bidder willing to pay the most for it. The reason stems from the conventional assumption that a bidder’s offer price should reflect its ability to put a target’s assets to productive use.

This Article challenges this assumption by turning to the success of private equity firms in outbidding publicly traded, strategic bidders during the takeover wave of 2004 to 2007. Using standard valuation modeling, this Article reveals how a critical component of any bidder’s valuation of a target stems from its source of acquisition financing. Specifically, a bidder’s ability to finance a takeover with debt can lead to a significant increase in its valuation of a target owing to a de facto government subsidy created by the deductibility of interest payments. Simultaneously, however, not every bidder has the ability to utilize debt financing to the same extent—a point emphasized in forty years of finance research. The result is that during periods of robust credit markets, such as occurred during 2004 to 2007, the highest bidders in takeover contests may often be those bidders, such as private equity firms, who are capable of using large amounts of debt financing.

By highlighting the critical role of finance in explaining bidder valuations, this Article illustrates how accurate economic analysis of

* Assistant Professor, University of Georgia School of Law. Helpful discussions, comments, and suggestions were provided by Royce Barones, Dan Bodansky, Brian Broughman, Bill Carney, Deborah DeMott, Vic Fleischer, George Geis, Mike Guttentag, Paul Heald, Wally Hellerstein, Darian Ibrahim, Thom Lambert, Jeff Netter, Chuck O’Kelley, Victoria Plaut, Annette Poulsen, Usha Rodrigues, Maggie Sachs, Jason Solomon, and Mike Wells. This Article also benefited from comments received from participants at the 2007 Law & Entrepreneurship Workshop at the University of Wisconsin School of Law and a faculty workshop at the University of Missouri School of Law. Lastly, special thanks go to Marc Auerbach of Standard & Poor’s and Eric Tutterow of Fitch Ratings for providing helpful data and discussion.
takeovers requires careful attention to bidders’ divergent financing decisions. Indeed, by failing to take finance seriously, traditional takeover scholarship may very well be advocating legal rules that promote inefficient takeovers.

INTRODUCTION

When the history of the most recent takeover boom is written, November 17, 2006, will no doubt occupy a central position. On that day, HCA, Inc., the country’s largest hospital operator, closed its $33 billion leveraged buyout (LBO). It was the first time an LBO exceeded $30 billion, displacing the 1989 buyout of RJR Nabisco, Inc., as the largest LBO in
Yet, to truly understand this remarkable transaction, it is necessary to look back six months to May 23, 2006. It was on that day that HCA’s board of directors convened to discuss its strategic options with its investment bank, Merrill Lynch & Co., in light of the stagnant growth in HCA’s core business.2

Merrill’s conclusions at that meeting were stark; only two practical options existed to increase shareholder value. First was a leveraged recapitalization in which the company would repurchase up to $6 billion of its publicly traded stock. To fund the repurchase, the company would significantly increase its debt load up to three times the company’s earnings before interest, taxes, depreciation, and amortization (EBITDA).3 Because interest payments on debt are tax deductible, the new capital structure would permit HCA to save billions in tax payments, thus delivering shareholder value to its remaining public shareholders. The downside was that HCA would become highly leveraged, and, Merrill cautioned, “HCA’s valuation/trading multiple would likely be pressured due to the public market’s aversion to the increased operating risk inherent in a highly leveraged situation.”4

The alternative option was an LBO. In such a transaction, one or more private equity firms would acquire the company using a combination of equity contributions and debt financing. Even without identifying any particular bidder or change to HCA’s operations, Merrill suggested the transaction could deliver shareholder value in the form of an acquisition premium, which would reflect the significant tax savings arising from the debt financing. Moreover, these tax savings would far exceed what the company could realize in a leveraged recapitalization. For in an LBO, Merrill reported—and this time without reservation—the company could “be leveraged up to 6.0 Debt to EBITDA.”5 Faced with these choices, the board opted to pursue an LBO.

The Merrill report, buried in HCA’s Securities and Exchange Commission (SEC) filings, thus suggests a key justification for why so many public companies elected to “go private” rather than remain public during the buyout wave of 2004 to 2007: HCA could take on more debt as a private company than as a public company and, consequently, deliver greater shareholder value by taking larger interest deductions. But why would a prominent investment bank draw this conclusion about HCA’s maximum debt capacity? Was the bank simply trying to steer the board towards going private? Or worse, was it justifying a transaction that had previously been decided upon by its client? Could there be any merit to the

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3. See id. at 23.
4. Id.
5. Id. at 35.
notion that, in the competition for the future of HCA, “public HCA” was somehow at a competitive disadvantage to “private HCA” in terms of how much debt financing it could use and therefore how much shareholder value it could offer?

The primary argument presented in this Article is that corporate scholarship has all too often ignored a basic insight of corporate finance: that the relative use of debt financing among bidders plays a central—often the central—role in determining the outcome of takeover contests. In a world with corporate taxes, the decision to finance an acquisition with debt creates a de facto government subsidy for a bidder owing to the deductibility of interest payments on debt. At the same time, however, a large body of literature in finance has demonstrated that not every bidder is willing and able to utilize debt financing to the same extent. Indeed, as HCA demonstrated, even where the “rival bidder” was simply the privately held version of a publicly traded company, private HCA somehow had more flexibility in using debt financing than public HCA.

By accounting for the uneven use of debt financing in the takeover market, this Article reveals how a substantial amount of takeover scholarship has incorrectly analyzed the operation of real world takeovers. The source of the misapprehension arises from the normative paradigm used by most takeover scholars. Motivated by a desire to ensure that resources are allocated to their highest valued use, countless scholars have examined takeovers with the aim of enhancing allocational efficiency, ranging from analysis of the desirability of hostile takeovers,6 the legality of takeover defenses,7 the wisdom of allowing boards to facilitate competing

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6. See, e.g., John C. Coffee, Jr., Regulating the Market for Corporate Control: A Critical Assessment of the Tender Offer’s Role in Corporate Governance, 84 Colum. L. Rev. 1145, 1148 n.5 (1984) (“Most of those who have participated in the debate over the desirability of encouraging competing bids have shared the view that takeovers promote efficiency . . . .”); Paul N. Cox, The Constitutional “Dynamics” of the Internal Affairs Rule—A Comment on CTS Corporation, 13 J. Corp. L. 317, 321 (1988) (“[T]he tender offer is favored on the ground that it facilitates the movement of assets to their highest uses, thereby ensuring efficient allocation of resources.”); Frank H. Easterbrook & Daniel R. Fischel, The Proper Role of a Target’s Management in Responding to a Tender Offer, 94 Harv. L. Rev. 1161, 1182 (1981) (“Our argument relies on the premise that [hostile] tender offers increase social welfare by moving productive assets to higher valued uses and to the hands of better managers.”); Melvin Aron Eisenberg, The Structure of Corporation Law, 89 Colum. L. Rev. 1461, 1497 (1989) (“[A]t least some completed takeovers undoubtedly result in a substitution of more efficient managers for less efficient managers, or of more efficient allocations of resources for less efficient allocations.”); Ronald J. Gilson, Seeking Competitive Bids Versus Pure Passivity in Tender Offer Defense, 35 Stan. L. Rev. 51, 62 (1982) (“There is agreement that tender offers serve an allocational role, and that competitive pricing generally facilitates the shifting of assets to their most productive users.”); see also Edgar v. MITE Corp., 457 U.S. 624, 643 (1982) (“The effects of allowing the Illinois Secretary of State to block a nationwide tender offer are substantial . . . . The reallocation of economic resources to their highest valued use, a process which can improve efficiency and competition, is hindered.”).

7. See, e.g., Easterbrook & Fischel, supra note 6, at 1175 (arguing against all defensive tactics on the ground that they impede hostile takeovers, thereby depriving shareholders of an acquisition premium that “reflects a . . . social gain from the superior employment of the
takeover offers, and the appropriateness of “deal protection” devices. Yet lacking an objective means to measure the social welfare effects of a proposed acquisition, those writing within the allocational efficiency normative paradigm have had to assume that the bidder willing to pay the most for a target firm is the bidder best able to utilize the target’s assets.

As this Article demonstrates, recognizing the power of debt financing to affect bidder valuations forces us to grapple with an uncomfortable feature of the allocational efficiency normative paradigm that is all too often ignored: offer price alone is not necessarily a reliable proxy for identifying the socially optimal bidder. The fact that a particular bidder is willing to pay the most for a target could reflect the bidder’s anticipated operating efficiencies with the target, but it could also reflect a simple willingness to use a greater degree of debt financing in structuring its bid. In this latter situation, a government subsidy—not a bidder’s superior ability to utilize target’s assets—would account for the highest bid. The long tradition of takeover scholarship advocating legal rules that ensure a target is acquired
by the highest valuing bidder might therefore promote inefficient takeovers in certain contexts. Figure 1 illustrates this insight:

Nor is the risk of inefficient takeovers of simply academic significance. As a matter of Delaware law, boards of directors are charged in change-in-control takeovers with the very objective desired by adherents of the allocational efficiency normative paradigm: “to secure the transaction offering the best value reasonably available for [target’s] stockholders.”11 Assuming boards follow this mandate, directors may periodically favor suboptimal bidders in light of bidders’ divergent financing decisions. This seems particularly true when robust credit markets permit bidders to use aggressive amounts of debt financing as occurred during the 2004 to 2007 buyout boom. By the end of 2006, private equity firms were routinely outbidding strategic bidders, with LBOs representing over twenty-five percent of all acquisitions for the year.12 To the extent private equity firms’ more aggressive use of debt accounted for their competitive advantage, debt financing may have impeded allocational efficiency in the recent takeover wave.

To be sure, any such conclusion must necessarily be a qualified one. As shown below, private equity firms generally form their valuations of targets based on both the benefits of significant debt financing as well as the operating efficiencies they expect to realize from a takeover. But unless we take financing seriously, takeover scholarship will continue to conclude wrongly that the highest priced offer is necessarily the optimal offer.

This Article proceeds as follows. Part I sets forth the basic principles of corporate finance that motivate this Article—namely, the power of debt

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financing to increase the value of a firm and the reasons why firms differ in their willingness to use it. Part II then examines the implications of these two principles of finance on takeover analysis. Using standard valuation modeling, Part II first illustrates how debt financing affects how a bidder values a target and how the relative use of debt financing among bidders can affect bidding outcomes. Turning from valuation theory to takeover practice, Part II then argues that the recent success of private equity firms in outbidding traditional strategic bidders may very well have arisen from their greater willingness to use debt financing, especially when combined with a more entrepreneurial approach to LBOs that emerged in the late 1990s and the remarkably liquid credit markets that characterized 2004 to 2007.

I. THE RELATIONSHIP BETWEEN DEBT FINANCING AND FIRM VALUE

Consider for a moment a basic question confronting the managers of every firm: what is the best way to finance the firm’s operations? After all, employees must be paid, equipment must be purchased and repaired, and projects must be financed. If a firm is profitable, the decision might seem easy: simply use any profits that the firm has accumulated over time. On the other hand, perhaps the firm lacks sufficient profits or its investors demand these accumulated profits be distributed to them as dividends. Consequently, a manager may frequently have to consider external sources of financing such as taking out a bank loan or selling the firm’s securities. Among these options, which is the optimal decision?

A. The (Un)Importance of Capital Structure in Perfect Markets: The Modigliani and Miller Irrelevance Theorem

For much of the twentieth century, conventional finance theory suggested that managers would be well advised to use some degree of debt financing. The reason stemmed from the fact that debt represents a contractual, fixed claim on a firm’s cash flows, allowing money to be borrowed at lower rates than if a firm has to raise funds from equity investors such as stockholders. In contrast to a lender, an equity investor has no fixed claim on a company’s cash flows and will therefore demand a higher rate of return for any investment. Of course, large amounts of debt financing might create an enhanced risk of financial distress for the firm if it were unable to meet its payment obligations. Nonetheless, the conventional wisdom held that “debt-financing should be ‘cheaper’ than equity-financing if not carried too far.”

In 1958, Franco Modigliani and Merton Miller challenged this conventional wisdom by postulating that a firm’s value and its cost of capital are independent of its capital structure, in particular its ratio of debt

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to equity financing. This theory, often referred to as the Modigliani-Miller irrelevance theorem (or MM), is one of the most widely known theories of corporate finance, for which both scholars would later be awarded the Nobel Prize in economics. Together with the capital asset pricing model and the efficient market hypothesis, it represents a cornerstone in the development of modern finance.

At first blush, the theorem makes considerable intuitive sense. Why should a firm be able to increase its value by simply changing the way it divvies up the various claims on its cash flows? As an illustration, consider the effect of a proposed debt restructuring on BigCo, a hypothetical publicly traded company. For simplicity, assume BigCo pays no corporate income taxes and that it has the following attributes. First, it has outstanding 100,000 shares of common stock and no debt. Second, under normal economic conditions, BigCo generates $125,000 in annual operating income, all of which is paid out to its shareholders via dividends of $1.25 per share. In an economic boom, however, it expects that annual operating income would increase to $175,000 (resulting in dividends of $1.75 per share), and in an economic slump, annual operating income would decrease to $75,000 (dividends of $0.75 per share). Lastly, BigCo’s shares trade at $10 prior to the restructuring, which means BigCo has a market valuation of $1,000,000 ($10 × 100,000 shares). If the market assumes that BigCo will continue to operate under normal economic conditions, this share price also indicates that investors are demanding a return of 12.5% for their equity investment.

Now assume that BigCo decides to alter its debt-to-equity ratio by taking out a loan for $500,000 and using the proceeds to repurchase 50,000 shares. Would this restructuring increase the market value of the firm? That is,

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14. See generally id.
15. Merton H. Miller shared the prize in 1990 with Harry Markowitz (generally considered the pioneer of modern portfolio theory) and William F. Sharpe (creator of the capital asset pricing model). Franco Modigliani had previously been awarded a Nobel Prize in 1985 for his analyses of saving and of financial markets.
17. The example that follows is based on a similar example found in Richard A. Brealey, Stewart C. Myers & Alan J. Marcus, Fundamentals of Corporate Finance 396–400 (4th ed. 2004).
18. Because we are assuming BigCo pays no corporate level income tax, BigCo can pay out all of its operating income as dividends. This assumption is relaxed below.
19. With no growth and perpetual dividends expected, stockholders’ expected return on investment can be calculated using a simple dividend-discount valuation model. In general terms, this valuation model is a form of discounted cash flow (DCF) analysis, which is widely used to value financial assets and firms. See Aswath Damodaran, Corporate Finance: Theory and Practice 750 (2001). All DCF methodologies involve forecasting future cash flows and then discounting them to present value at a discount rate that reflects their riskiness. See id. Under the dividend-discount model, the price of a single share should reflect expected dividends per year (DIV) divided by the firm’s cost of equity capital (r): Price Per Share = DIV / r. Given a $10 price per share and expected dividends of $1.25 in perpetuity, we can solve for r by simply rearranging terms: r = $1.25 / $10.
would the market value of the total claims on BigCo’s assets—its outstanding debt with a face value of $500,000 and its outstanding 50,000 shares—now exceed $1,000,000? MM’s “Proposition I” provided a mathematical explanation of why it could not. Indeed, the conclusion might seem obvious: the restructuring did nothing to change BigCo’s underlying income stream. It should still expect to earn $125,000 in operating income in normal economic conditions; $175,000 in good economic conditions; and $75,000 in poor economic conditions. The only change was the financing mix. How could the firm’s value possibly have increased?

Yet on closer inspection, Proposition I was not necessarily an obvious conclusion, and it was met with considerable skepticism when it was first published. While the restructuring would not change BigCo’s revenue stream, it would result in two changes to BigCo that might appear to enhance its value. First, it replaced expensive equity with cheaper debt in its capital structure. Because debt has a senior claim on BigCo’s assets in bankruptcy, it represents a less risky investment, so BigCo should be able to obtain an interest rate less than the 12.5% rate of return demanded by its equity investors. If BigCo could obtain a rate of 10%, for example, it should have an overall lower cost of capital, thus lowering the financing costs of future projects and investments. Second, as shown in Figure 2, the additional borrowing would increase BigCo’s expected earnings per share from $1.25 to $1.50 in normal economic conditions.

Modigliani and Miller demonstrated the economic irrelevance of each of these changes. First, with regard to the increase in earnings per share, the increase comes at a price: greater earnings volatility. Whereas prior to the debt restructuring each share would receive $0.75 in a slump and $1.75 in a boom, after the restructuring each would receive $0.50 and $2.50, respectively. In other words, the effect of the leveraged restructuring would be to double the magnitude of the upside and downside return on BigCo’s shares. It turns out that if shareholders of the all-equity BigCo wanted this

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Figure 2: Effect of BigCo Debt Restructuring

<table>
<thead>
<tr>
<th>State of the Economy:</th>
<th>Prior to Debt Restructuring</th>
<th>After Debt Restructuring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slump</td>
<td>Normal</td>
</tr>
<tr>
<td>Operating Income:</td>
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<td>$125,000</td>
</tr>
<tr>
<td>Interest Payments on Debt:</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Equity Earnings:</td>
<td>$75,000</td>
<td>$125,000</td>
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<td>Outstanding Shares:</td>
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<td>100,000</td>
</tr>
<tr>
<td>Earnings Per Share:</td>
<td>$0.75</td>
<td>$1.25</td>
</tr>
</tbody>
</table>

20. See Merton H. Miller, The Modigliani-Miller Propositions After Thirty Years, 2 J. Econ. Persp. 99, 100 (1988) (discussing the significant “[s]kepticism about the practical force of our invariance proposition” at the time it was published in 1958).
type of income volatility, they could easily have obtained it through borrowing on their own and reinvesting the proceeds in BigCo’s stock.\footnote{For example, under the assumptions utilized in the Modigliani-Miller irrelevance theorem, an investor with $10 to invest could go to a bank, borrow $10 at 10\% interest and then invest $20 in two shares of the all-equity BigCo.  Holding these two shares the investor would expect annual dividends of $1.50 in an economic slump ($0.75 \times 2$), $2.50 in regular economic conditions ($1.25 \times 2$) and $3.50 in an economic boom ($1.75 \times 2$).  After paying $1 in interest each year, the investor’s net returns would then be identical to the returns of investors in the recapitalized BigCo—that is $0.50 in an economic slump, $1.50 in normal economic conditions, and $2.50 in an economic boom.  This opportunity for “homemade” leverage was a critical insight of Modigliani and Miller’s paper.}} Consequently, if BigCo effects the restructuring, it is not achieving anything for investors that they could not do already, underscoring why the restructuring alone cannot increase BigCo’s value.\footnote{See Modigliani & Miller, supra note 13, at 270 (“We conclude therefore that levered companies cannot command a premium over unlevered companies because investors have the opportunity of putting the equivalent leverage into their portfolio directly by borrowing on personal account.”).}

For similar reasons, the restructuring will not result in an overall lower cost of capital for BigCo. If the restructuring doubles the volatility of BigCo’s earnings per share, rational equity investors will demand a higher rate of return to compensate for this increased risk. Recall that investors previously demanded a return on investment of 12.5\%, which represented a premium of 2.5\% above the market interest rate. If BigCo doubles the volatility of its earnings per share, rational equity investors will require double this premium, resulting in a required rate of return of 15\% (10\% + 2.5\% \times 2). The result is entirely consistent with Proposition I: if dividends are expected to be $1.50 per year after the restructuring, a required rate of return of 15\% would result in a price per share of $10.\footnote{Again, this price was obtained using the dividend-discount model: \text{Price} = \frac{\text{Dividend}}{\text{Rate}} = \frac{1.50}{.15} = 10.} The total market value of BigCo’s debt and equity securities therefore remains at $1,000,000 ($500,000 debt + $500,000 equity securities), as postulated by Proposition I. Moreover, while $500,000 of BigCo’s capital structure would consist of debt bearing interest at 10\%, the other half—50,000 shares trading at $10 per share—would consist of equity for which investors now demand a 15\% rate of return. As a result, the weighted average cost of capital for BigCo would be 12.5\%, the same as prior to the restructuring.\footnote{The weighted average cost of capital reflects the average cost of capital for a firm in light of its capital structure. Stated differently, it represents the average return on investment that a firm must generate in its operations in order to keep all of its investors satisfied. See Brealey, Myers & Marcus, supra note 17, at 322.} This second conclusion—that a firm’s average cost of capital will remain the same regardless of its capital structure—constituted MM’s “Proposition II.”\footnote{In the words of Modigliani and Miller, “[T]he average cost of capital to any firm is completely independent of its capital structure and is equal to the capitalization rate of a pure equity stream of its class.” Modigliani & Miller, supra note 13, at 268–69 (emphasis omitted).} Figure 3 provides an illustration.
B. Capital Structure and Firm Value in the Real World

The two MM propositions hold true, however, only if several simplifying assumptions are made. These include the existence of perfectly efficient capital markets as well as the absence of both taxes and bankruptcy costs.\textsuperscript{26} Relaxing any of these assumptions dramatically changes the results of the propositions. Perhaps most importantly, in a world with corporate taxes, debt financing can increase the value of a firm to its shareholders because the interest that a company pays on debt is tax deductible.\textsuperscript{27}

Consider again BigCo’s proposed restructuring, but now assume that BigCo’s profits were taxed at a marginal rate of 35%. Prior to the restructuring, BigCo’s annual operating income of $125,000 would be reduced by 35% ($43,750), resulting in after-tax income of $81,250. If equity investors continue to demand a 12.5% rate of return, the company would then be valued at $81,250/0.125, or $650,000.\textsuperscript{28} After the debt restructuring, BigCo would have to use $50,000 of its annual operating income to make interest payments on debt, but this $50,000 would reduce BigCo’s taxable income from $125,000 to $75,000. As a result, BigCo would pay only $26,250 in corporate taxes ($75,000 \times 35\%$), leaving $48,750 for its equity investors. Assuming equity investors would now require a 15% rate of return as discussed previously, the company’s equity would be valued at $48,750/0.15, or $325,000. Given BigCo’s outstanding debt with a face value of $500,000, BigCo’s overall valuation would

\begin{figure}
\centering
\caption{MM Proposition II}
\begin{tikzpicture}
\begin{axis}[
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    xlabel={Cost of Capital},
    ylabel={\(r_{\text{equity}}\) = return demanded by equity investors},
    ylabel style={align=center},
    xlabel style={align=center},
    xmin=0, xmax=1,
    ymin=0, ymax=1,
    xtick={0,1},
    ytick={0,1},
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]
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(0,0) (1,1)
};
\addlegendentry{\(r_{\text{equity}}\) = return demanded by equity investors}
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(0,0) (1,0)
};
\addlegendentry{\(r_{\text{debt}}\) = return demanded by lenders}
\end{axis}
\end{tikzpicture}
\end{figure}

\textsuperscript{26} See id. at 267–68.
\textsuperscript{27} See I.R.C. § 163(a) (2000) (“There shall be allowed as a deduction all interest paid or accrued within the taxable year on indebtedness.”). For a general discussion of the deductibility of corporate interest payments, see Boris I. Bittker & James S. Eustice, Federal Income Taxation of Corporations and Shareholders § 5.03 (2007).
\textsuperscript{28} Because BigCo’s income is assumed to continue in perpetuity, the dividend discount valuation model can be utilized to value the entire firm. See supra note 19.
therefore total $825,000 ($500,000 + $325,000)—an increase of $175,000 in firm value achieved simply by replacing equity with debt. At base, the new debt would have created a wealth transfer from the U.S. Treasury to BigCo, thereby increasing the value of the company.29

Thus, the interest “tax shield” provided by debt can constitute a potentially valuable asset that increases the more a company uses debt to finance its operations. In modeling the effect of corporate taxes on their irrelevance theorem, Modigliani and Miller therefore significantly modified their original propositions in 1963.30 As Miller would later summarize,

This time . . . the value of the firm (in the sense of the sum of the values of the private, nongovernmental claims) is not independent of the debt/equity division in the capital structure. In general, thanks to the deductibility of interest, the purely private claims will increase in value as the debt ratio increases. In fact, under conditions which can by no means be dismissed out of hand as implausible, we showed that the value of the private claims might well have no well-defined interior maximum. The optimal capital structure might be all debt!31

In the real world then, the question is not whether firms can increase value by replacing equity with debt—it is why firms do not have an all-debt capital structure in the first place.

C. Explaining Firms’ Divergent Financing Decisions

From this basic question, four decades of finance research has emerged examining why firms have such radically different capital structures.32 Today, financial economists remain thoroughly divided on this “capital structure puzzle,”33 with some believing that a single explanatory theory may never emerge. As one prominent economist has noted, “There is no universal theory of the debt-equity choice, and no reason to expect one.”34

29. The new debt would also result in an overall lower cost of capital for BigCo. Because interest is tax deductible, the government effectively pays 35% of BigCo’s interest cost meaning that BigCo only needs to earn the after-tax rate of interest on its debt to keep its debt investors satisfied. In other words, BigCo’s effective cost of debt decreases from 10% in a world without taxes to 6.5% (i.e., 10% × (1 − 35%)) in a world with taxes. See generally Brealey, Myers & Marcus, supra note 17, at 405–06.
31. See Miller, supra note 20, at 112.
32. See Glen T. Ryen, Geraldo M. Vasconcellos & Richard J. Kish, Capital Structure Decisions: What Have We Learned?, 40 Bus. Horizons 41, 41 (1997) (“The determination of an optimal capital structure has been one of the most contentious topics in the finance literature since Modigliani and Miller (MM) introduced their capital structure irrelevancy propositions in the American Economic Review in 1958.”).
33. See Michael J. Barclay & Clifford W. Smith, The Capital Structure Puzzle: The Evidence Revisited, 17 J. Applied Corp. Fin. 8, 8 (2005) (describing the theoretical debate and noting that “[w]hat makes the capital structure debate especially intriguing is that the theories lead to such different, and in some ways diametrically opposed, decisions and outcomes”).
34. Stewart C. Myers, Capital Structure, 15 J. Econ. Persp. 81, 81 (2001).
While a full review of these competing theories is beyond the scope of this Article, it is important to recognize a common theme underlying virtually all of them: firms are predicted to differ in their financing decisions for reasons that are entirely rational. This conclusion emerges from even a cursory review of the three primary theories used to explain firms’ capital structure decisions: the agency cost theory, the pecking order theory, and the trade-off theory.

1. The Agency Cost Theory

From the moment Modigliani and Miller published their tax-adjusted Proposition I, its unpleasant implications for corporate managers were clear. According to Miller,

It suggested that the high bond ratings of [lightly leveraged] companies, in which the management took so much pride, may actually have been a sign of their incompetence; that the managers were leaving too much of their stockholders’ money on the table in the form of unnecessary corporate income tax payments.35 That low debt levels might reflect mismanagement was later formalized by Michael Jensen with even more ominous overtones.36 Given the agency costs associated with the management of publicly traded corporations, shareholders should expect corporate managers to engage in self-serving behavior such as using cash flows to secure higher salaries, perquisites, or job security. Moreover, contracts were an inadequate corrective, particularly where managers used company cash flows to pursue seemingly productive—albeit inefficient—investments.

For Jensen, a low debt level at a public company—or the retention of “financial slack”—was thus intimately related to the agency costs of public corporations. It allowed managers to pursue negative net present value investments, to expand perquisites, and to make ill-advised acquisitions. “The problem,” according to Jensen, “is how to motivate managers to disgorge the cash rather than investing it at below the cost of capital or wasting it on organization inefficiencies.”37 If the absence of debt contributed to this problem, Jensen hypothesized, one solution would be to radically increase a firm’s leverage. Under an increased debt burden, managers would have significant incentives to generate cash flows and would be forced to scale back all but the most promising investments. In short, by obligating a company to make interest payments, debt could help alleviate the agency costs of public ownership.38 Indeed, Jensen’s theory helped explain the initial wave of LBOs during the 1980s, which were largely considered “shock therapy designed to cut back wasteful

35. Miller, supra note 20, at 112.
37. Id. at 323.
38. See id. at 324.
investment, force sale of underutilized assets, and generally to strengthen management’s incentives to maximize value to investors. Under this agency cost paradigm then, a firm’s financing decision should reflect the extent to which it suffers from the agency costs associated with the separation of ownership and control.

2. The Pecking Order Theory

Not all theories of capital structure proceed on the assumption that firms’ divergent financing decisions arise from agency costs. On the contrary, most of the academic debate has centered on theories that assume loyal managers who adopt capital structures aimed to maximize shareholder welfare. Under the “pecking order” theory, for instance, firm managers are assumed to act in the best interests of its current shareholders and seek to minimize the negative wealth effects to a firm associated with raising external capital. These negative wealth effects arise from the fact that an information asymmetry exists between a firm’s managers and its prospective investors regarding a firm’s prospects, which creates a severe adverse selection problem for prospective investors, particularly for equity investors. Equity investors will recognize that even well-meaning managers have an incentive to sell equity securities to the public when managers believe the market overvalues their firm. Consequently, outside investors will interpret a new equity issuance as a signal that management believes its shares are overvalued, and investors will therefore discount the market prices of firms that issue equity securities—a prediction that has been confirmed in numerous studies.

In general, because debt investors can minimize this adverse selection problem through debt contracts, these negative wealth effects should be greater for equity issuances than for debt issuances and can be avoided entirely if a company can use internal funds to finance its new investments. Accordingly, the theory suggests that loyal managers will first look to internal funds before turning to external financing, and to the extent external financing is needed, managers will issue debt rather than equity. This “pecking order” is consistent with the general pattern in which U.S. corporations have historically chosen to finance their operations. Specifically, most of the aggregate gross investment by U.S. corporations

39. Myers, supra note 34, at 98.
40. The pecking order theory was originally articulated by Stewart Myers and Nicholas Majluf. See Stewart C. Myers & Nicholas S. Majluf, Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have, 13 J. Fin. Econ. 187 (1984).
41. See, e.g., Paul Asquith & David W. Mullins, Equity Issues and Offering Dilution, 15 J. Fin. Econ. 61, 70–74 (1986) (finding an average fall in price of about 3% of the preissue market capitalization of firms issuing equity securities); Nathalie Dierkens, Information Asymmetry and Equity Issues, 26 J. Fin. Quantitative Analysis 181, 188 (1991) (finding a price drop at the announcement of equity issuance to be greater among firms that have large measures of information asymmetry).
42. See Myers & Majluf, supra note 40, at 189.
has been financed from internal cash flows, with external financing accounting for less than twenty percent of corporate financing needs, the vast majority of which has consisted of debt. Like the agency cost paradigm, it also suggests firms will differ significantly in their financing decisions. For instance, it predicts profitable firms will often borrow less than non-profitable firms, notwithstanding the fact that profitable firms have the most to gain from the tax shield of debt.

3. The Trade-Off Theory

Likewise, the trade-off theory also assumes that managers use capital structure to maximize shareholder welfare and predicts firms will vary widely in their financing decisions. In general, the theory models a firm’s optimal capital structure as one that maximizes the benefits of debt against its costs. While debt might provide a valuable tax shield and might reduce agency problems, the issuance of debt—particularly large amounts of debt—comes with both direct and indirect costs. For instance, a highly leveraged firm will have a higher likelihood of financial distress given that a setback in anticipated earnings may result in an inability to make interest payments. A highly leveraged firm might even have to seek bankruptcy protection or a protracted renegotiation of its debt. Either scenario would entail considerable direct costs that must be paid from the firm’s assets, causing investors to discount the value of the firm by the present value of these anticipated costs.

Moreover, even if a highly leveraged firm can avoid these scenarios, there are indirect costs of debt that may adversely affect firm value. For example, suppliers may worry that they will not be paid, customers may fear the firm will not honor its contractual commitments, and key employees may have concerns about layoffs and begin to look for alternative employment. This is to say nothing about the well-known conflict of interest between equity investors and debt investors within a leveraged firm. As a result of this conflict, when a firm increases its

43. See Myers, supra note 34, at 82.
44. See id. at 93.
45. See id. at 94.
46. See id. at 88–89. One study of troubled, highly leveraged firms found that the direct and indirect costs of financial distress amounted to 10% to 20% of a firm’s predistress market value. Gregor Andrade & Steven N. Kaplan, How Costly Is Financial (Not Economic) Distress? Evidence from Highly Leveraged Transactions That Became Distressed, 53 J. Fin. 1443 (1998).
47. When a leveraged firm nears financial distress, there may be instances when stockholders can benefit at the expense of debt holders. For instance, stockholders may have an incentive to use a firm’s remaining assets to pursue negative net present value projects that promise significant returns, albeit at extraordinary risk. The reason stems from the fact that if the gamble turns out to be a success, the stockholders will share in all of the upside after satisfying the firm’s debt claims. If the gamble turns out to be a failure, however, they have lost nothing given that the creditors of the firm would have received all of the firm’s assets in a liquidation. In effect, stockholders have an incentive to gamble with the debt...
leverage, debt investors will demand increasingly onerous protective covenants as well as higher interest rates, which may adversely affect a firm’s freedom to pursue promising investment opportunities. For all of these reasons, loyal managers will seek a target debt level that balances the benefits of debt against its costs as illustrated in Figure 4.

The task of finding this “target” debt ratio is made all the more difficult by the fact that the costs and benefits of debt will affect firms in different ways. For instance, firms operating in volatile industries will experience significant variations in their cash flows, thus increasing the possibility of missing a mandatory interest payment and triggering a loan default.48 For other firms, the quality of its assets may be the primary determinant of where to set the target debt level. For instance, public utility companies with large holdings of tangible property and real estate generally borrow considerably more than software companies whose primary assets consist of intellectual property and goodwill.49 The reason undoubtedly relates to the fact that tangible, real property can more easily be liquidated in the event of a bankruptcy than the intangible property of a technology growth company. Not surprisingly, firms within particular industries tend to cluster around particular debt-to-equity ratios.50

holders’ money. For a summary of the types of conflicts that can arise among debt holders and stockholders, see Myers, supra note 34, at 96–98.


49. See Brealey, Myers & Marcus, supra note 17, at 394 (noting the average debt-to-firm value ratio of 7% for software companies compared with 65% for utility companies).

50. See, e.g., Milton Harris & Artur Raviv, The Theory of Capital Structure, 46 J. Fin. 297 (1991) (summarizing the findings of four studies that concluded that specific industries have a common leverage ratio, which over time is relatively stable); see also Gay B. Hatfield et al., The Determination of Optimal Capital Structure: The Effect of Firm and Industry
Even within a particular industry, unique, firm-specific characteristics may significantly influence the cost-benefit analysis of debt financing. Most notably, a firm’s profitability directly affects its tax burden and, consequently, the size of the potential tax shields available from taking on more debt. Similarly, a firm’s particular business strategy might lessen the financial distress costs otherwise associated with a particular leverage ratio. For example, Srinivasan Balakrishnan and Isaac Fox found that even a firm’s decision to invest in a strong advertising campaign might affect its financial distress costs. By demonstrating a firm’s commitment to maintain a positive brand image, Balakrishnan and Fox hypothesized, these investments should signal a firm’s commitment to honor its debt obligations, given that a firm’s reputation can be seriously damaged if it defaults on a loan. Firms that invest in this type of intangible asset should therefore have a lower risk of default—and consequently lower financial distress costs—notwithstanding the fact that large advertising investments create the very type of intangible assets that are difficult to value in a reorganization. Consistent with this theory, Balakrishnan and Fox found that firms with large advertising investments had greater leverage ratios than other firms having comparable fixed assets, growth opportunities, and income volatility.

4. Summary

In summary, after forty years of finance research, it is now clear that a firm’s financing choice can affect firm value. What remains unclear is how managers decide which type of financing to use. On this issue, it appears that rational managers will often disagree about the optimal level of debt and equity, a fact reflected in the diversity of capital structures in the current marketplace. Moreover, one need not subscribe to any particular capital structure theory to appreciate the fact that divergent capital structures among firms is simply a fact of corporate life.

Once again, the HCA buyout is instructive. Recall that although HCA’s underlying business would remain largely the same after an LBO as after a leveraged recapitalization, Merrill Lynch concluded that, as a privately held company, HCA could take on almost twice as much debt than if it remained

Debt Ratios on Market Value, 7 J. Fin. & Strategic Decisions 1 (1994) (summarizing literature examining the relationship between industry and debt-to-equity ratios).

51. See, e.g., Srinivasan Balakrishnan & Isaac Fox, Asset Specificity, Firm Heterogeneity and Capital Structure, 14 Strategic Mgmt. J. 3, 11 (1993) (finding that firm specific characteristics account for approximately 50% of the variance in leverage ratios while industry characteristics account for only 5% to 10%).


53. See Balakrishnan & Fox, supra note 51, at 11–14.

54. See id. at 6, 8.

55. Id.
publicly held.\textsuperscript{56} Exactly why Merrill Lynch drew this conclusion is unclear, but it is certainly consistent with a growing empirical literature that has documented the tendency of privately held firms to use considerably more debt than publicly held firms, even after controlling for other firm-specific factors associated with greater leverage.\textsuperscript{57} It is also consistent with any of the three theories discussed above. Under an agency cost theory, for instance, a private equity firm might be better positioned than HCA’s dispersed public shareholders to monitor management to ensure they extract sufficient cash flows to meet the larger debt burden.\textsuperscript{58} Likewise, under a pecking order theory, a private firm might seek greater debt financing because the illiquidity of privately held stock significantly increases the costs of financing operations through equity issuances.\textsuperscript{59} Lastly, publicly traded firms may experience higher financial distress costs for highly leveraged capital structures due to the information asymmetry between a company’s dispersed shareholders and its management.\textsuperscript{60}

\textbf{II. IMPLICATIONS FOR TAKEOVER ANALYSIS: THEORY AND EVIDENCE}

As the foregoing analysis indicates, debt financing provides a potentially powerful way for managers to increase the value of a firm. For similar

\textsuperscript{56} See infra text accompanying notes 4–5.
\textsuperscript{57} See generally Rick H. Mull & Drew B. Winters, \textit{IPOs, Public Market Access, and Firm Capital Structure}, 20 J. Econ. Fin. 99, 106 (Supp. 1996) (finding that after controlling for other determinants of capital structure choice, private firms have significantly greater debt ratios than public firms); Chris J. Muscarella & Michael R. Vetsuypens, \textit{Efficiency and Organizational Structure: A Study of Reverse LBOs}, 45 J. Fin. 1389, 1408–09 (1990) (finding that firms that go public following a leveraged buyout (LBO) dramatically reduce their leverage ratios following the public offering); see also Omer Brav, How Does Access to the Public Capital Market Affect Firms’ Capital Structure? 2 (Nov. 22, 2004) (unpublished manuscript, on file with author) (finding that private firms have leverage ratios that are approximately 40% higher, on average, than their public counterparts).
\textsuperscript{58} See supra Part I.C.1.
\textsuperscript{59} See supra Part I.C.2.
\textsuperscript{60} See, e.g., Part I.C.3. Specifically, these higher costs may stem from the relationship between a firm’s credit rating and its perceived risk of financial distress by shareholders. When a public company significantly increases its debt ratio, the three primary credit ratings agencies will ordinarily downgrade the company’s credit rating in the course of reviewing the new issue. See Darren J. Kisgen, \textit{Credit Ratings and Capital Structure}, 61 J. Fin. 1035, 1038–39 (2006). Because these agencies will have access to highly confidential information regarding the company, shareholders commonly interpret the downgrade as a signal regarding the firm’s ability to service the debt. As ratings are differentiated at discrete levels (AAA, AA, BBB, etc.), companies with the same ratings may be pooled together with all the companies in the pool perceived to be just eligible for the particular rating. The result is a discrete, and often, dramatic increase in the perceived financial distress costs associated with the new leverage level. \textit{Id.} In contrast, shareholders in privately held firms should have greater access to information concerning the firm’s operating performance and potential default risk, allowing for a more accurate assessment of the firm’s financial distress risk. This is especially true in a firm that has undergone an LBO, where a company’s private equity investors have direct access to management. Indeed, this ability to monitor management directly (especially when combined with the equity incentives discussed below) further allows a company undergoing an LBO to reduce the financial distress risk of a highly leveraged capital structure. See infra text accompanying note 89.
reasons, a bidder that finances an acquisition with debt rather than equity can significantly increase its ultimate valuation of a target. In effect, the bidder will have chosen to recapitalize the target with debt, thereby lowering the target’s cost of capital due to the deductibility of interest payments as discussed in Part I.B. Yet for the same reason, the fact that firms have different preferences for debt financing allows this form of financing to affect bidding outcomes. In particular, in a bidding contest for a target, the fact that one bidder chooses to be more aggressive with debt financing may very well give it a competitive edge over other bidders, regardless of whether it is the bidder that could best put the target’s assets to productive use.

As this part reveals, the conclusion can be illustrated by examining basic valuation theory as well as the experience of real life bidders during the takeover wave that lasted from 2004 through the summer of 2007. In the process, this part suggests the need for a fundamental rethinking of the long tradition in takeover scholarship of advocating legal doctrines that ensure a target in a takeover contest is acquired by the bidder willing to pay the most for it. Given the power of debt financing to affect bidding outcomes, such doctrines may actually promote suboptimal takeovers in certain contexts.

A. **Subsidized Acquisitions: How Debt Financing Affects Bidder Valuations**

Consider again the case of BigCo except now assume that BigCo’s management has decided to put the company up for sale. As in the original example, BigCo has no debt outstanding, has the same economic attributes discussed previously, and is subject to a corporate income tax of 35%. For simplicity, let us further assume there are only two potential buyers interested in BigCo: ManagementCo and StrategyCo. ManagementCo represents a group of BigCo’s senior executives who are proposing a management buyout. The group anticipates no postacquisition synergies or cost savings, believing instead that BigCo will simply maintain its current level of annual pretax operating income of $125,000 for the foreseeable future. StrategyCo, in contrast, represents BigCo’s primary competitor who hopes to achieve considerable operating synergies through a merger. In particular, it believes it can increase BigCo’s operating income by 3% per year forever. Thus, from the perspective of allocational efficiency, StrategyCo is clearly the bidder that can put BigCo’s assets to the more productive use.

Who will actually put forth the best price? It depends on how each finances its bid. If ManagementCo is a typical management buyout, we can expect it to use a high degree of debt financing in its acquisition, effectively recapitalizing BigCo with more debt. As a result, ManagementCo will be able to utilize the implicit government subsidy provided by the resulting tax deductions when it forms its valuation of BigCo. StrategyCo, in contrast, may be at a competitive disadvantage in bidding if it is unable or unwilling to finance its offer with debt. For instance, if StrategyCo is a software
company that uses no debt in its operations. StrategyCo would finance its bid with all equity, resulting in an ultimate valuation of $880,921 using a standard discounted cash flow (DCF) analysis. Even though this value represents a premium of 36% to BigCo’s existing market value, ManagementCo would be able to beat it by obtaining a loan commitment of $660,000 and financing the rest of the acquisition consideration through equity contributions. Assuming ManagementCo were to keep this debt outstanding after the acquisition, the present value of the resulting tax shields would be $231,000, allowing ManagementCo to put forth a maximum bid of $881,000 (again, using a standard DCF analysis).

61. See supra note 49 and accompanying text (discussing low leverage levels of software firms).

62. This valuation was obtained using the Gordon growth model, which is one of the oldest methods for valuing firms. See Damodaran, supra note 19, at 129. In general, the model is a modified form of the simple dividend-discount formula, supra note 19, and is appropriate to use where an all-equity firm’s cash flows are assumed to grow at a constant rate. The formula can be expressed as \[
\frac{\text{last annual cash flows} \times (1 + \text{growth rate})}{\text{cost of equity} - \text{growth rate}}.
\]

For purposes of valuing BigCo, the perpetual stream of cash flows to be expected would equal BigCo’s last full year of net operating income after taxes ($81,250, see supra text accompanying note 28), and assuming nothing has changed the underlying risk of BigCo’s business, BigCo’s cost of equity would still equal 12.5%. See supra text accompanying note 19. Accordingly, the Gordon growth model would calculate the discounted present value of BigCo as follows:

\[
\frac{(81,250 \times 1.03)}{(0.125 - 0.03)} = \$880,921.
\]

Because $880,921 represents the value of all anticipated future cash flows from BigCo discounted to present value, it should be the maximum price StrategyCo should pay for BigCo. For a general discussion of the Gordon growth model, see Damodaran, supra note 19, at 129–30.

63. Although such a loan would be large in magnitude, it would be well within the range of debt multiples used in LBOs during 2006. See infra text accompanying notes 91–95.

64. The present value of the tax shields can be calculated by discounting to present value the anticipated annual tax savings resulting from BigCo’s interest payments. Given the assumption that this debt would remain outstanding forever and given a 35% tax rate, BigCo could expect to save each year $660,000 \times (\text{rate of interest}) \times 35\%$. Moreover, because tax shields are largely assumed to have the same risk as that of the interest payments generating them, the most common assumption is to discount the tax shields at the rate of interest. See Brealey, Myers & Marcus, supra note 17, at 403–04. As a result, the actual interest rate becomes irrelevant for purposes of calculating the present value of the tax shields, and the method for calculating the present value of tax shields is simplified as (tax rate) \times (debt outstanding). See id. In the case of ManagementCo’s bid for BigCo, this can be demonstrated by using the following perpetuity formula:

\[
\frac{(660,000 \times (r) \times 0.35)}{(r)} = \frac{660,000 \times 0.35}{35} = \$231,000.
\]

The simplified formula (tax rate \times debt) will be utilized in the remainder of this Article for calculating the present value of tax shields.

65. This value was obtained using the adjusted present value (APV) methodology, which is generally recognized as the optimal DCF analysis to use when a bidder plans to make a significant modification to a target’s capital structure in connection with an acquisition. See Josh Lerner & Felda Hardymoon, Venture Capital and Private Equity: A Casebook 203–05 (2002). In general, the APV method begins by valuing a target on the assumption that it will be financed entirely with equity and then adding to this value the expected value of any changes to the target’s capital structure. See generally Timothy A. Luehrman, Using APV: A Better Tool for Valuing Operations, Harv. Bus. Rev., May–June 1997, at 3. In our example, the APV method would thus add the present value of the anticipated tax shields arising from ManagementCo’s financing structure ($231,000, as calculated in supra note 64) to the value of BigCo assuming ManagementCo financed it with all equity. Because ManagementCo expects no change in BigCo’s cash flows after the acquisition, this latter figure would equal
Consequently, even without any change to BigCo’s preexisting cash flows, ManagementCo could win the bidding contest.

To be sure, StrategyCo could avoid this problem if it anticipated larger operating synergies from the acquisition. Moreover, there is only so much debt ManagementCo could seek to use, thereby placing an upper limit on the value of the tax shields. For instance, assuming a corporate income tax of 35%, the maximum theoretical amount of debt that ManagementCo could use would be $1,000,000, creating a maximum tax shield of $350,000.\(^66\) As Figure 5 shows, ManagementCo’s willingness to use this level of debt financing would therefore allow ManagementCo to match any bid by StrategyCo assuming StrategyCo used a permanent annual growth rate of 4% or less, but not if StrategyCo modeled its valuation of BigCo using a permanent annual growth rate of more than 4%.\(^67\)

\[\text{Valuation of BigCo} = \text{ManagementCo Valuation} - \text{StrategyCo Valuation} + \text{Amount of ManagementCo Debt Financing}\]

Yet even assuming StrategyCo could significantly increase BigCo’s operating income, the foregoing discussion oversimplifies how ManagementCo and StrategyCo would likely model their valuations in at least two important respects. First, while StrategyCo might reasonably assume a significant increase in BigCo’s rate of growth in the near term, it is less tenable to maintain this assumption for long periods of time.

\[^{66}\text{If the value of a firm consists of the value of its debt plus the value of its equity, see supra text accompanying notes 19–20,}$1,000,000 is the maximum amount of debt ManagementCo could use given that, when BigCo pays no income tax, the value of BigCo is \$1,000,000, see supra text accompany notes 19–24. Stated algebraically, we can calculate the maximum theoretical amount of debt that ManagementCo could use by setting the APV formula for valuing BigCo equal to BigCo’s aggregate firm value (i.e., the value of its debt + equity): \(\$650,000 + (.35 \times \text{BigCo debt}) = \text{BigCo debt + BigCo equity}\). By assuming that BigCo is funded with all debt and solving for BigCo’s debt, we then get the following: BigCo debt = \$650,000 / .65 = \$1,000,000. As in supra note 64, if ManagementCo were to use \$1,000,000 of debt financing, the resulting tax shields would be calculated by multiplying this amount by the tax rate of 35%.

\[^{67}\text{The valuations used in Figure 5 were derived using the same methodologies utilized in supra notes 62 and 65, as modified to reflect StrategyCo’s assumed rates of growth.}\]
Assuming BigCo operates in a competitive industry, competition among firms must eventually erode above-market operating margins. Moreover, any valuation model using a constant growth rate must use a growth rate that is less than or equal to the economy’s overall growth rate. The reason is a simple matter of mathematics: if a firm’s cash flows could grow forever at a rate that exceeded the economy’s growth rate, the firm would become the economy. For firms being valued in U.S. dollars, this puts an upper limit on the perpetual growth rate of approximately 5% to 6% per year.

Second, it is extremely unlikely that ManagementCo would anticipate level operating income in the foreseeable future. At a minimum, ManagementCo could expect some cost savings from taking BigCo private. For example, as a privately held company, BigCo would be free of the expense of complying with the reporting requirements of the Securities Exchange Act of 1934 (Exchange Act), any listing fees required to list its publicly traded securities, and the enhanced litigation risk associated with having publicly traded equity securities. This appears to be especially true following passage of the Sarbanes-Oxley Act of 2002, which has increased significantly the costs of having securities subject to the Exchange Act reporting requirements. Additionally, ManagementCo

69. See Damodaran, supra note 19, at 129.
70. Id.
72. In its closely followed study, the Committee on Capital Markets Regulation cited enhanced liability risk as a principal cause for the apparent diminished competitiveness of U.S. capital markets. In particular, it noted that private class action settlement costs have increased from $150 million in 1995 to $3.5 billion in 2005 (leaving out the $6.1 billion settlement associated with the WorldCom litigation). See id. at 5. At the same time, the committee also stressed that much of this enhanced litigation risk stemmed from more active public enforcement actions of both a civil and criminal nature. See id. at 71–91. The committee concluded that, in addition to the direct costs of enhanced monetary liability, liability risk also “has the effect of engendering greater uncertainty in the marketplace about just what is allowed, and what is not.” Id. at 67. Additionally, the enhanced liability risk appears to have increased the premiums charged to publicly traded firms for standard directors and officers (D&O) insurance policies. See William J. Carney, The Costs of Being Public After Sarbanes-Oxley: The Irony of “Going Private,” 55 Emory L.J. 141, 147 (2006) (citing a study showing that “the cost of D&O insurance has risen by 25% to 40% for companies with healthy balance sheets, and as much as 300% to 400% for companies with financial troubles”).
74. The Sarbanes-Oxley Act (SOX) is widely recognized as increasing the costs of registering securities under the Securities Exchange Act. See, e.g., Christian Leuz et al., Why Do Firms Go Dark? Causes and Economic Consequences of Voluntary SEC Deregistrations, 44 J. Acct. & Econ. (forthcoming 2008), available at
might also expect some enhanced operating efficiencies. As noted above, highly leveraged firms can create significant incentives among managers to generate cash flow. For ManagementCo, this incentive should be particularly enhanced given the increased ownership stake of BigCo’s managers in the postacquisition firm. If BigCo’s managers fail to execute their business plan, it will be their own money they have lost.

As a result of these two considerations, a more realistic understanding of how ManagementCo and StrategyCo form their valuations of BigCo would be to assume that both bidders expect significant short-term operating efficiencies, followed by a lower constant growth rate. In fact, this DCF methodology is routinely recommended by both academics and practitioners as the preferred method to value firms.75 Interestingly, applying the methodology to the case of BigCo’s acquisition only further accentuates the power of the tax shields to level the playing field between StrategyCo (high synergies) and ManagementCo (low synergies). Figure 6 sets forth the results of running sixteen DCF analyses assuming StrategyCo used a different fixed rate of short-term growth for BigCo ranging from 0% to 15% for a period of five years, followed by a long-term annual growth rate of 3%. In each analysis, ManagementCo was also assumed to anticipate a long term growth rate for BigCo of 3%, but it expected only one-half the short-term growth rate anticipated by StrategyCo. ManagementCo was also assumed to finance its offer at a debt level consistent with the average of all U.S. leveraged buyouts occurring in 2006.76 As Figure 6 illustrates, under these assumptions, StrategyCo would

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=592421 (noting that SOX has “substantially increased the internal resources necessary to comply with the new SEC reporting requirements, as well as the cost of retaining outside auditors and lawyers”). Much of the increased compliance cost is related to § 404 of SOX which requires a company’s management and its outside auditors to attest to the adequacy of a company’s internal controls. See Comm. on Capital Mkts. Regulation, supra note 71, at 5 (noting that the average cost of § 404 in 2004 was $4.36 million for an average company). In addition to these direct costs, SOX may also entail indirect costs that result when “compliance activities consume[] increasing amounts of executive time.” Carney, supra note 72, at 151. Several studies have suggested that these increased costs alone have encouraged an increase in the number of publicly traded companies that have elected to become private companies since 2002. See, e.g., Comm. on Capital Mkts. Regulation, supra note 71, at 4 (noting that going private transactions have “risen dramatically in recent years” and “[o]ne must consider whether the decision to ‘go private’ or to access the private equity market is a response to the regulatory and liability costs and burdens of the public U.S. market”). Indeed, the cost of complying with SOX is the “most frequently stated reason[] given by management in press releases to explain why their firms are going dark.” Leuz, supra, at 7; see also Carney, supra note 72, at 149 (finding the same reasons in a sample of 13e-3 filings filed in 2004).

75. See Damodaran, supra note 19, at 131–34; see also Lerner & Hardymoon, supra note 65, at 206–11 (describing methodology).

76. In 2006, the average debt-to-EBITDA ratio for all leveraged buyouts was 5.7. See Average Pro Forma Adjusted Credit Statistics of Leverages Buyout Loans 2006, Standard & Poor’s M&A Stats, Dec. 2006, at 2, 2 [hereinafter S&P Leveraged Commentary]. For simplicity, the DCF models utilized here assume a debt-to-EBITDA ratio of 6.0. To ensure a more realistic assessment of the comparative advantage of debt financing, the DCF methodologies used in this example track closely the assumptions utilized in the analysis of a
need to expect a short-term growth rate of at least 13% per year before it could outbid ManagementCo.

Admittedly, real life bidders analyze expected synergies and cost savings with considerably more refinement than used in this example. But the central insight offered here must apply for even these more complex valuation models: the use of debt financing effectively subsidizes a bidder’s ultimate valuation of a target. Indeed, it is for this reason that the present value of the tax shields arising from debt financing appear as a fundamental element in every significant form of DCF analysis. At the same time, the long-standing debate over capital structure tells us that not every bidder will use this subsidy to the same extent given bidders’ divergent financing policies. The result of these two factors is a de facto subsidy that benefits some bidders but not others.

debt-financed acquisition in Luehrman, supra note 65. This includes an assumption that at the end of year five, ManagementCo will refinance BigCo’s debt with a new issue of long-term debt at 9% (although for simplicity, the models here assume a fixed interest rate of 10%). See Luehrman, supra note 65, at 153. In contrast to Luehrman, however, the models do not assume that BigCo’s indebtedness will grow after year five as BigCo continues to grow. See id. (assuming constant growth rate of debt of 5% per year after year five). Were the models to use this assumption, the resulting tax shields would be even larger and the competitive advantage of debt financing even greater than depicted in Figure 6.

77. See, e.g., Lerner & Hardymoon, supra note 65, at 199–200 (“The net present (NPV) method is one of the most common methods of cash flow valuation. . . . The NPV method incorporates the benefit of tax shields from tax-deductible interest payments in the discount rate (i.e., the Weighted Average Cost of Capital, or WACC).”); see also id. at 203 (“[In an APV analysis one first] consider[s] the cash flows generated by the assets of a company, ignoring its capital structure. The savings from tax-deductible interest payments are then valued separately.”).
B. Reconsidering the Efficiency of Awarding Target to the Highest Bidder

In light of the power of debt financing to affect bidder valuations, the fact that bidders’ financing decisions have not played a larger role in modern takeover scholarship is puzzling to say the least. The omission is all the more so considering the tendency of takeover scholars to assume that the bidder willing to pay the most for a target is the bidder best able to utilize the target’s assets as a matter of allocational efficiency. Given the importance of this assumption in takeover analysis, one might reasonably expect considerable probing of the black box of bidder valuations.

To be sure, takeover scholarship has recognized the tax benefits of debt financing in corporate acquisitions. Those who have taken the potential for a tax-motivated acquisition seriously, however, have largely contented themselves that such acquisitions raise no efficiency concerns by turning to an agency cost explanation: when a target firm is acquired in an LBO, the target’s management is generally presumed to have “failed to maximize firm value by carrying too little debt and paying too much in taxes.” In other words, such an analysis would have us believe that a lightly leveraged bidder’s inability to compete with a highly leveraged bidder is primarily self-inflicted—a product of the agency problems that plague large, publicly traded corporations.

Yet, as argued in Part I.C, there are considerable reasons to question whether agency problems are the primary cause of the divergent use of debt financing among bidders. More significantly, even if agency problems do account for some firms’ divergent financing choices, we might still be concerned about the efficiency implications of the uneven use of debt financing among bidders. The reason stems from the simple fact that having a tax-efficient capital structure does not necessarily mean a bidder is capable of putting a target’s assets to the most productive use. As Google has shown the world, even companies with remarkably inefficient capital structures that use no debt financing can be remarkably efficient in how they utilize resources.
Thus, whether or not bidders limit their use of debt because of loyal or disloyal agents, the uneven use of debt financing may result in the scenario depicted in Part II.A in which a low-synergy, high-leverage bidder outbids a high-synergy, low-leverage bidder. Unless takeover scholarship takes seriously the power of finance to affect bidder valuations, prevailing takeover analyses may therefore wrongly conclude that the highest bidder is the socially optimal bidder.

The need for a more nuanced consideration of finance in takeover scholarship is made all the more pressing by examining the effect of bidders’ divergent financing decisions in real world takeovers. As a matter of Delaware law, boards of directors are charged in change-in-control takeovers with the very objective desired by adherents of the allocational efficiency normative paradigm: “to secure the transaction offering the best value reasonably available for the [target] stockholders.”

Consequently, the power of debt financing to result in inefficient takeovers is not just a theoretical problem—default corporate law might actually be encouraging target boards to pursue socially suboptimal bidders in certain contexts. As the next section argues, several factors suggest that the recent buyout wave presented the type of economic environment in which debt financing did in fact impair allocational efficiency.

voting structure, especially when combined with its lack of debt financing, represents a remarkably inefficient capital structure. Cf. Ronald Masulis et al., Agency Problems at Dual Class Companies (Nov. 12, 2006) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=961158 (finding that managers with greater control rights in excess of cash-flow rights are prone to waste corporate resources to pursue private benefits at the expense of shareholders). Nonetheless, by virtually any accounting measure, Google has been remarkably efficient in deploying its assets (all figures reported as of January 31, 2008):

<table>
<thead>
<tr>
<th></th>
<th>Google</th>
<th>Average for Computer Services Industry</th>
<th>Average for S&amp;P 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt to Equity</td>
<td>0.00</td>
<td>0.20</td>
<td>0.56</td>
</tr>
<tr>
<td>Efficiency Measure:</td>
<td></td>
<td></td>
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<tr>
<td>Gross Margin</td>
<td>60.08</td>
<td>51.47</td>
<td>44.19</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>31.42</td>
<td>23.26</td>
<td>19.59</td>
</tr>
<tr>
<td>Net Profit Margin</td>
<td>26.90</td>
<td>19.29</td>
<td>13.29</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>20.64</td>
<td>13.54</td>
<td>8.83</td>
</tr>
<tr>
<td>Return on Investment</td>
<td>22.36</td>
<td>16.50</td>
<td>12.84</td>
</tr>
<tr>
<td>Revenue/Employee</td>
<td>$1,402,736</td>
<td>$652,703</td>
<td>$929,210</td>
</tr>
</tbody>
</table>


C. An Inefficient Takeover Wave? The Buyout Boom of 2004 to 2007

To this point, the discussion has focused primarily on why the highest-paying bidder in competitive bidding for a target may not necessarily be the bidder best able to utilize a target’s assets as a matter of valuation theory. It remains to be seen, however, whether bidders’ divergent financing decisions actually affect allocational efficiency in the real world. After all, if low-leverage, high-synergy bidders regularly outbid high-leverage, low-synergy bidders, one might reasonably conclude that debt financing—although subsidizing some bids—poses no threat to allocational efficiency in real life takeovers.

As a preliminary matter, it is important to recognize the significant challenges facing any attempt to examine empirically the extent to which debt financing might affect allocational efficiency. Basic negotiation strategy gives a bidder little incentive to disclose to a target the full extent of its anticipated gains from a proposed acquisition, nor are there any affirmative legal duties to disclose these anticipated gains. The task of identifying the most efficient bidder in a competitive auction is further complicated by the fact that most auctions are not publicly disclosed. For a privately held firm, its board of directors has no obligation at all to disclose publicly the process by which it sold the company. Likewise, although most publicly traded targets describe the sales process to its shareholders in a publicly available proxy statement, descriptions of auctions are notoriously vague and generally omit details of all but the winning bid. Lastly, even assuming one could identify all bidders in a competitive auction for a target, analyzing whether a bidder anticipated using debt financing to outbid rivals would be complicated by several factors. For instance, a bidder might not disclose its anticipated financing of an acquisition, and even where it did, the disclosure may lack critical information regarding how the financing might affect the bidder’s valuation of the target. Whether the bidder anticipated taking on additional debt after the transaction closed and how quickly the bidder planned to pay off the

83. Professors Audra Boone and Harold Mulherin found that there is actually considerably more “auction activity” involving publicly traded firms than has historically been believed. Audra Boone & Harold Mulherin, How Are Firms Sold?, 62 J. Fin. 847, 847 (2007). Whereas most prior studies of auctions have limited their inquiry to the public announcement of a takeover bid, Professors Boone and Mulherin reveal that “public takeover activity is only the tip of the iceberg of actual takeover competition during the 1990s.” Id. Rather, over half of the publicly traded targets in their study of 400 acquisitions conducted “private takeover auction[s]” prior to announcing a negotiated transaction. Id. at 847–49. Significantly, while the auction process was revealed in a target’s proxy solicitation, details of the auction (such as bidder names, offer prices, or financing arrangements) were not. See id. at 857.

84. In an all-cash acquisition of a publicly traded target, for example, the proxy rules do not necessarily require a bidder to disclose the source of its acquisition financing. See 17 C.F.R. § 240.14a-101 (2007) (Instructions to Item 14).
debt are but two factors that could significantly affect the size of the anticipated tax shields but which may not be disclosed by a bidder.85

1. The Traditional Pricing Gap Between Strategic Bidders and Leveraged Buyout Firms: The Advantage of Operating Synergies

Notwithstanding these challenges, we can obtain some general observations regarding the effect of debt financing on allocational efficiency by examining how private equity buyers (LBO firms) have fared in competitive auctions against publicly traded corporate buyers (strategic bidders).86 LBO firms represent a natural category of bidder to examine in this regard given that their primary investment strategy is to make corporate

85. For instance, even in an LBO, it can be extremely difficult to calculate the size of a bidder’s anticipated tax shields based on the financing information disclosed at the time of the transaction. Debt covenants traditionally require that any excess cash generated by the acquired business be used to repay outstanding indebtedness, thus requiring a target to pay down its debt obligations as quickly as possible. See, e.g., Carliss Baldwin, Technical Note on LBO Valuation (A) (Harv. Bus. Sch. Case No. 9-902-004, July 6, 2001), at 2. Accordingly, these “cash sweep” provisions might reduce the size of a bidder’s anticipated tax shields. Complicating matters, however, is the fact that these provisions are generally demanded by senior lenders; the target’s management and its LBO sponsors will generally “make every effort to eliminate or at least minimize loan principal payments in the early years of ownership.” Colin Blaydon and Fred Wainwright, The Balance Between Debt and Added Value, FT.com, Sept. 28, 2006, http://search.ft.com/ftarticle?queryText=the+balance+between+debt+and+added&y=0&aje=false&x=0&id=060928007405&ct=0. When lenders are forced to compete for deals as was the case for much of 2004 to 2007, see infra text accompanying notes 141–49, lenders may be more generous in how quickly the debt must be repaid. In fact, the competition for leveraged loans during 2004 to 2007 resulted in lenders providing additional debt financing after an LBO that increased the level of transaction indebtedness. See Blaydon & Wainwright, supra (“A few quarters of good post-deal financial performance will present management with the opportunity to approach lenders to renegotiate terms and perhaps even increase the level of debt in a ‘leveraged recapitalization.’ In today’s generous debt markets, senior acquisition debt has had much less stringent repayment requirements than has historically been the case.”). In many transactions, this posttransaction indebtedness was utilized to fund a cash dividend payment to the LBO firms, thereby allowing them to recoup their initial equity contribution (often referred to as a “dividend recap”). See, e.g., Kenneth MacFadyen, Forget the New Year: PE Still Celebrating 2004, Buyouts, Jan. 3, 2005 (“[W]ith the high yield market where it is, [LBO] sponsors don’t mind putting more equity up front at [an LBO] closing, and then head back to the debt markets three to six months later and pull some of their equity out through a recap.”) (quoting Eduard Bagdasarian, managing director at Barrington Associates)).

86. This Article uses the traditional phrase “LBO firm” rather than the more colloquial “private equity firm” to make clear that the unit of analysis is a financial buyer who utilizes the LBO as its primary form of investment. The term “private equity firm,” in contrast, is often associated with venture capital firms who do not engage in LBOs. The concept of a “strategic bidder” is one that is commonly used in both the academic and industry press. See, e.g., Paul M. Healy et al., Which Takeovers Are Profitable? Strategic or Financial?, 38 Sloan Mgmt. Rev. 45, 45 (1997) (describing strategic takeovers as “friendly transactions that typically involved stock payment for firms in overlapping businesses”). This Article conforms to the conventional industry usage of the term such that a “strategic bidder” refers to any publicly traded bidder seeking an acquisition opportunity in a related industry to realize potential operating synergies.
acquisitions using large amounts of debt financing. Figure 7 represents the basic structure for an LBO transaction.

![Figure 7: Typical LBO Structure](image)

Although deal structure may vary from this basic model, almost all LBOs will conform to the model’s general contours. After raising funds from a variety of institutional and individual investors, an LBO firm seeks out acquisition opportunities that offer the potential for significant investment returns. Traditionally, the ideal targets for LBOs were businesses that generate significant cash flows and that would benefit from more streamlined, efficient operations. For instance, during the 1980s LBO boom, LBO firms focused on acquiring a number of large, publicly traded corporate conglomerates that had diversified into different (and often unrelated) industry sectors during the 1960s and 1970s. Following an LBO, the LBO firm would then seek to rationalize a target’s core business by selling off unrelated divisions and curtailing operating expenses. Today, as in the 1980s, the goal of an LBO remains largely unchanged: to create a more valuable target in a relatively short period of time (generally five to seven years from the original acquisition). Thereafter, the target will be sold via an acquisition by another firm or a sale to public investors via an initial public offering (IPO) of the target’s stock. The LBO firm will then distribute the proceeds of the sale to its investors, less approximately 20% to 30% of the net profits, which it retains as compensation.

Critical to the success of an LBO is a radical change in the capital structure of the target. As a result of an LBO, ownership of the target will be concentrated in the hands of the sponsoring LBO firm. In addition, LBO firms generally require the target’s postacquisition managers to purchase a significant equity stake in the target. This ensures that the managers’ financial interests are aligned with those of the LBO firm while creating a

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powerful incentive for managers to increase the value of the target’s equity. Together, these two features of target’s capital structure help alleviate the well-known agency problem created by the separation of ownership and control in publicly traded companies. Although the evidence is not entirely free from doubt, at least one important study of the 1980s takeover wave suggests that part of the acquisition premium offered in LBOs of publicly traded targets stemmed from the elimination of these agency problems.

Even more importantly, an LBO firm will fundamentally change a target’s capital structure by using a high degree of financial leverage in its acquisition financing. For instance, in their study of 124 management buyouts completed between 1980 and 1989, Steven Kaplan and Jeremy Stein found an average debt-to-firm value ratio of almost 90% for completed buyouts. As Figure 8 shows, LBOs today continue to be financed with significant amounts of debt, with LBOs completed in 2006 averaging a debt-to-firm value ratio of approximately 60%. The reasons for this choice of financing are twofold. First, debt financing can considerably enhance an LBO firm’s return on investment. In particular, to the extent an LBO firm can finance an acquisition with borrowed funds, any appreciation in the value of the target that exceeds the fixed cost of borrowing will accrue to the LBO firm and its investors. Second, acquiring the target with debt financing effectively recapitalizes the target’s business with debt, allowing the LBO firm to capture many of the benefits of debt discussed previously. These include the enhanced incentive to operate the target’s business efficiently to meet scheduled interest payments as well as the considerable financial benefits of the tax shield. In fact, the tax benefits alone appear to have been a primary determinant of how great

89. See id. ch. 5 (discussing buyout structure).
92. See S&P Leveraged Commentary, supra note 76, at 1. As mentioned in supra note 85, however, the total amount of debt financing anticipated to be used by the target may be more than this amount to the extent that an LBO firm conducts a postacquisition dividend recap.
93. The power of leverage to enhance investment returns can be demonstrated using a simple home purchase example. Assume a house is for sale for $150,000 and is expected to have a resale value in one year’s time of $180,000. Acquiring the home with $150,000 in cash would therefore result in a return on investment of 20% (i.e., $30,000 profit / $150,000 investment). However, by using only $15,000 in cash (10%) and borrowing the rest of the purchase price ($135,000) at 10% interest, the investment return would increase nearly threefold. For an investment of $28,500 ($15,000 down payment + $13,500 interest for one year), the purchaser would receive a net payout of $45,000 ($180,000 sales price − $135,000 loan balance), yielding a one-year return of 58%. It is the power of leverage to enhance returns in this fashion that is a principle reason why LBO firms seek large amounts of debt financing. Conversely, it is for the same reason that the LBO markets will virtually evaporate when the debt markets contract. See Leslie Green, Platforms Play Solid, Add-Ons Anticipated, Buyouts, Mar. 26, 2001, at 1, 1.
an acquisition premium an LBO firm could afford to pay for many of the buyouts effected during the 1980s. Consequently, whether to remain a competitive bidder in an auction or to maximize its investment returns, an LBO firm has a significant incentive to maximize the use of debt financing.

In contrast, strategic bidders have generally used far lower levels of debt financing when making corporate acquisitions. Aloke Ghosh and Prem Jain, for instance, analyzed the financial leverage changes associated with 239 mergers involving strategic bidders and targets occurring between 1978 and 1987. Ghosh and Jain hypothesized that publicly held bidders had significant incentives to increase their leverage levels in connection with the acquisition of a preexisting business. In particular, the combination of two existing businesses whose earnings were not perfectly correlated with one another should increase the debt capacity of the surviving firm. This

94. See, e.g., Robert L. Kieschnick, Jr., Free Cash Flow and Stockholder Gains in Going Private Transactions Revisited, 25 J. Bus. Fin. & Acct. 187, 187–88 (1998) (finding the “size of the firm and its potential for tax reductions [from debt financing] to be significant determinants of the premiums paid to take it private” in a sample of LBOs completed during the 1980s); see also Kaplan, supra note 79, at 619 (finding in a sample of buyouts completed in the 1980s that the median value of tax benefits from the value of anticipated interest deductions from an LBO ranged from 129.7% of the premium paid to prebuyout shareholders (assuming a tax rate of 46%) to 42.3% (assuming a tax rate of 15%).

95. Not surprisingly, anecdotal evidence suggests that LBO firms will utilize as much debt in an acquisition as the debt markets will provide, in effect letting lenders set a target’s leverage level. See David Snow, In Credit Crunch, Auctions Are Less Pleasant, Buyouts, Nov. 23, 1998, at 1, 22–23.


97. See id. at 380. In effect, the earnings of one business might subsidize an earnings shortfall in the other business during an adverse market cycle, thus reducing the surviving firm’s bankruptcy risk. The idea that an increase in debt capacity could result from a merger of two firms and thus provide a motive for a merger was first proposed by Wilbur G. Lewellen. See Wilbur G. Lewellen, A Pure Financial Rationale for the Conglomerate Merger, 26 J. Fin. 349 (1971); see also R.C. Stapleton, Mergers, Debt Capacity, and the
additional debt capacity, in turn, should allow the surviving firm to take on additional debt, which would enhance firm value given the resulting tax shields.98

In support of this hypothesis, Ghosh and Jain found that bidders and targets increased their combined debt-to-firm value ratio from an average of 32.9% prior to each merger to 38.4% after it.99 Yet even assuming this increase in leverage was reflected in a bidder’s original valuation of target,100 it represents less than half the average leverage ratio of LBOs occurring during the same period and only slightly more than half the average leverage ratio used in LBOs during 2006. Moreover, Ghosh and Jain modeled each postacquisition firm’s “optimal” debt capacity by regressing financial leverage on a number of industry and firm variables that ordinarily correlate with debt ratios. Based on these models, Ghosh and Jain found that the merged firms had considerable unused debt capacity in the five years following each transaction, indicating “that merged firms could increase financial leverage even more if they wanted to.”101 In short, unlike LBO firms, strategic bidders do not appear inclined to use as much debt as possible in financing an acquisition.

In light of the prior discussion about optimal capital structure, the disparity between leverage levels of strategic bidders and LBO firms should hardly be surprising. A bidder’s acquisition of a company is but one type of investment project102 that will presumably conform to the bidder’s general financing and capital structure policies. The highly leveraged capital structure of an LBO represents a leverage policy that is likely ill-suited for most strategic bidders. This seems especially true for publicly traded bidders who may have to balance the benefits of debt financing against considerations about the effect of leverage on its core business, whether it might impair earnings accretion following the acquisition, and the reaction of analysts, customers, employees, and suppliers to a downgrade in the bidder’s credit rating.103 Not surprisingly, several studies have confirmed that a bidder’s choice of payment method in an acquisition reflects the same

98. See Ghosh & Jain, supra note 96, at 380.
99. See id. at 386–87.
100. This appears to be a reasonable assumption. Ghosh and Jain found that almost all of the increase in financial leverage took place close to the completion date of the merger. See id. at 387. Moreover, in a cross-sectional regression analysis, they found that market-adjusted returns following the announcement of a merger were positively related to increases in financial leverage following the merger, suggesting that the stock market incorporated the future benefits of the anticipated tax shields when the merger was first announced. See id. at 395–99.
101. Id. at 389–90.
103. See supra text accompanying notes 57–60.
considerations that animate the debate over optimal capital structure. Consistent with the trade-off theory, for instance, publicly traded bidders with large growth opportunities are significantly more likely to use stock to finance an acquisition than to use cash and debt.\textsuperscript{104} Likewise, consistent with the pecking order theory, publicly traded bidders have been found to finance acquisitions with stock rather than cash where a bidder’s stock appears to be overvalued by the market.\textsuperscript{105} And consistent with the agency cost theory, publicly traded bidders subject to significant agency problems appear to avoid financing an acquisition with debt to escape the disciplining effect of leverage.\textsuperscript{106}

Moreover, strategic bidders may feel little need to tap into the implicit subsidy of debt financing to bid successfully for a target. Where a bidder is publicly traded, the ability to use its stock as acquisition currency may offer some strategic advantages over cash to the target’s managers and shareholders. For instance, stock acquisitions can qualify for tax-free reorganization treatment, allowing a target’s shareholders to postpone payment of taxes on the disposition of their target securities. A target’s managers who hold significant ownership stakes in the target may also prefer to receive stock in exchange for their target securities as a way of retaining influence in the combined firm.\textsuperscript{107}

Perhaps most importantly, a strategic bidder may not need to rely on the tax shields created by debt financing to bid successfully for a target because of the potential for realizing significant operating synergies in an acquisition. Whereas LBO firms have traditionally valued a target based on efficiency enhancements to a target’s existing business and changes to the target’s capital structure,\textsuperscript{108} a strategic bidder is generally believed to make

\textsuperscript{104} See Kenneth J. Martin, The Method of Payment in Corporate Acquisitions, Investment Opportunities, and Management Ownership, 51 J. Fin. 1227 (1996). Martin suggests that growth firms prefer stock as an acquisition currency for the same reason that growth firms issue equity rather than debt when raising capital: “[T]he discretion associated with equity financing is valuable for firms with good investment opportunities since it makes it more likely that these firms can fully take advantage of their investment opportunities.” Id. at 1229.

\textsuperscript{105} See Nickolaos G. Travlos, Corporate Takeover Bids, Method of Payment, and Bidding Firms’ Stock Returns, 42 J. Fin. 943, 961 (1987). Recall that a principal contention of the pecking order theory is that managers time stock issuances to coincide with periods when a company’s stock is perceived as overvalued. See supra text accompanying notes 40–44.

\textsuperscript{106} See Martin, supra note 104, at 1229 (“Firms with poor investment opportunities issue debt if management is monitored by the capital providers to the firm and issue equity otherwise.”). The role of agency costs in the financing of acquisitions, however, is not entirely clear in the financial literature. Notwithstanding Martin’s conclusion that disloyal managers prefer stock acquisitions, others have contended that a bidder’s managers who value control may prefer financing acquisitions with cash and debt. By using this form of financing, managers can avoid the dilution that would occur to their voting control if they issued new stock. For an empirical examination supporting this hypothesis, see Amihud et al., supra note 102, at 607–15.

\textsuperscript{107} See Aloke Ghosh & William Ruland, Managerial Ownership, the Method of Payment for Acquisitions, and Executive Job Retention, 53 J. Fin. 785, 786 (1998).

\textsuperscript{108} See supra text accompanying note 87.
its valuations based on anticipated operating synergies of the surviving firm.\footnote{109} These operating synergies can include any number of improvements to the cash flows of the combined firms, such as elimination of overlapping facilities, improved efficiency in production or distribution,\footnote{110} greater realization of economies of scale,\footnote{111} increased monopoly power,\footnote{112} and product diversification and utilization of excess capacity.\footnote{113} Empirical evidence on whether strategic bidders actually realize these synergies is mixed,\footnote{114} but it seems clear that the expectation of synergies plays a critical role in the valuation of a target by a strategic bidder. Attempts to measure empirically the relationship between anticipated operating synergies and acquisition premiums reveal a strong relationship between the two.\footnote{115} And within the mergers and acquisitions

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\footnote{109} See, e.g., Bernard S. Black, \textit{Bidder Overpayment in Takeovers}, 41 Stan. L. Rev. 597, 608 (1989) (“An important source of potential gain from takeovers is synergy between buyer and seller that permits the merged company to be run more efficiently. . . . The hypothesis that . . . operating synergy is a major source of stock price gains from takeovers has wide currency in the literature.”).


\footnote{113} See Ken C. Yook, \textit{Larger Return to Cash Acquisitions: Signaling Effect or Leverage Effect?}, 76 J. Bus. 477, 480 n.3 (2003). These benefits are, of course, in addition to any enhanced cash flows a bidder might anticipate if the bidder believes the target is inefficiently managed. \textit{See id}.

\footnote{114} See, e.g., Fee & Thomas, \textit{supra} note 110, at 455–58 (finding evidence consistent with improved productive efficiency and buying power as sources of gains for horizontal mergers); Paul M. Healy et al., \textit{Does Corporate Performance Improve After Mergers?}, 31 J. Fin. Econ. 135 (1992) (finding in a study of the fifty largest U.S. mergers between 1979 and 1984 that “[m]erged firms show significant improvement in asset productivity relative to their industries, leading to higher operating cash flow returns”). \textit{But see Black, supra} note 109, at 606 (“[E]xcept for horizontal mergers, where the case for operational synergy is strongest, there is a substantial gap between the observed stock price gains and the proposed sources for the gains.”); Alok Ghosh, \textit{Does Operating Performance Really Improve Following Corporate Acquisitions?}, 7 J. Corp. Fin. 151 (2001) (identifying methodological shortcomings in prior studies of acquisitions finding operating improvements). For a survey of the relevant literature examining this issue, see Robert F. Bruner, \textit{Does M&A Pay? A Survey of Evidence for the Decision-Maker}, 12 J. Applied Fin. 48 (2002).

\footnote{115} See, e.g., Matthew T. Billett & Mike Ryngaert, \textit{Capital Structure, Asset Structure and Equity Takeover Premiums in Cash Tender Offers}, 3 J. Corp. Fin. 141, 162 (1997) (finding that a target’s abnormal equity returns were increasing in the target’s liability-to-equity ratio and decreasing with respect to the financial asset-to-equity ratio, which is consistent with the idea that bidding firms pay a premium for control of target equity based on how much they believe they can revalue its nonfinancial assets); Joel F. Houston et al., \textit{Where Do Merger Gains Come From? Bank Mergers from the Perspective of Insiders and Outsiders}, 60 J. Fin. Econ. 285, 305–13 (2001) (finding in a sample of bank mergers a significant relationship between the present value of anticipated cost savings arising from a merger and announcement day returns of both the bidder and the target).
industry, the belief that strategic bidders can achieve substantial operating synergies through acquisitions is nothing short of an article of faith.116

For many years, the size of these anticipated operating synergies—especially when combined with healthy equity markets—gave strategic bidders a clear pricing advantage over LBO firms when bidding for targets. As one lawyer specializing in LBO transactions summarized in 2006, “A few years ago, in an auction situation, the seller’s investment bank would typically say, ‘Here are the strategic buyers,’ and almost as an afterthought, ‘Here are the financial buyers—we’ll never get the same price from them.’”117 In Buyouts magazine (a leading trade publication within the LBO industry), the historic pricing advantage of strategic bidders over LBO firms was a constant source of analysis (and angst) from the founding of the magazine in the early 1990s. The advantage of strategic bidders was commonly discussed, and in 1995 the magazine commenced an annual poll of industry participants to monitor the pricing “gap” between strategic and financial buyers.118

Without exception, the cause of the gap was attributed to the ability of strategic bidders to realize potential operating synergies, combined with the attractiveness of offering stock consideration in certain market conditions. Writing in 1996, for instance, a general partner of a middle-market LBO firm provided a typical assessment:

Strategic buyers tend to be more aggressive in bidding on acquisitions that offer the potential for operating synergies with their own business . . . . The rising stock market has [also] created a greater disparity between valuation multiples of public versus private companies, and as the disparity widens, strategic buyers have been willing to bid more aggressively for acquisitions . . . . This trend works to enhance the fundamental competitive advantages—the ability to generate operating synergies—that strategic buyers already have over financial buyers.119

Not surprisingly, LBO firms in many ways welcomed the end of the 1990s bull market as strategic bidders became considerably less active in pursuing acquisitions. With a primary competitor sidelined, LBO firms seized the opportunity to acquire targets that might otherwise have been out of reach had better market conditions prevailed. As one general partner

116. See, e.g., Fee & Thomas, supra note 110, at 424 (“Managers of firms undertaking horizontal mergers and acquisitions often cite improved productive efficiency as the primary source of anticipated gains to mergers.”); Yook, supra note 113, at 480 (commenting that publicly traded “[b]idders almost always allege that the creation of an enhanced combined effect is the driving motive for their acquisition attempts and that the acquisition creates value for shareholders”).


remarked in a 2003 interview with *Buyouts*, “In years gone by, if strategic buyers were interested, a financial buyer couldn’t win, but in this environment there is a tremendous opportunity for the financial players to pursue and capture high quality assets.” The article noted, however, that with market conditions expected to improve in 2004, the conventional wisdom was that strategic bidders would return to acquisitions, making it once again difficult for LBO firms to compete in an auction environment.

Yet when strategic bidders did return to the acquisition market in 2004 and 2005, LBO firms found that the traditional pricing advantage of strategic bidders had largely dissipated. On the contrary, as numerous industry participants and journalists observed, the reverse held true: after 2004, “[s]trategic buyers [had] a hard time competing against private equity firms.”

2. The Evolution of Leveraged Buyouts: Combining Operating Synergies with Debt Financing

What explained the change in the competitive position of LBO firms? As this section argues, much of the reason stems from LBO firms’ comparatively greater willingness to use debt financing in combination with two important developments during the late 1990s: first, a dramatic increase in the availability of credit for LBO firms owing to a radical transformation in bank lending, and second, a more entrepreneurial approach to LBOs that became typical for LBO firms. The result of these

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121. *See id.* (“Private equity groups will find it increasingly difficult to compete. They’ve largely had the field to themselves and the strategics are coming back into the picture . . . . It will come down to how low [LBO firms] will be willing to lower their returns if they really want to compete.” (quoting Glenn Gurtcheff, director and cohead of U.S. Bancorp Piper Jaffray’s middle-market mergers and acquisitions group)).

122. Steve Rosenbush, *Deals of the Year, in a Year of Deals*, *BusinessWeek*, Dec. 19, 2006, http://www.businessweek.com/bwdaily/dnflash/content/dec2006/db20061218_740232.htm (quoting Joe Ravitch, a senior media banker at Goldman Sachs); *see also Five Questions with . . . David Santoni Managing Director, Goldsmith Agio Helms*, *Buyouts*, Jan. 23, 2006, at 51, 51 (noting that strategic buyers “are aggressively pursuing selective acquisitions but are oftentimes being outbid by financial buyers in competitive processes” (quoting David Santoni)); Klee, *supra* note 12 (“‘Gone are the days when the strategic always had an advantage because of the synergies. It has shifted meaningfully so that we see private equity all over our spaces all the time. And they’re teaching the sellers to have expectations around prices that have impacted and infected the entire seller’s market.’” (quoting Anne Madden at Honeywell International, Inc.)); O’Sullivan, *supra* note 117, at 39 (“Strategic buyers . . . have plenty of cash themselves. But no longer can they expect financial buyers to shy away from competing on price . . . .”); *Squawk Box* (CNBC television broadcast Oct. 11, 2006) (“‘We don’t have any debt. And we are looking for acquisitions. It is a little frustrating in my long experience now in this business, us strategic buyers used to be able to outbid financial buyers because of our perceived ability to find synergies or economies in companies that we acquired. Just now we are being outbid by financial buyers because we just won’t overpay.’” (quoting Frank MacInnis, Chairman & CEO, EMCOR Group)).
developments was that LBO firms could increasingly outbid strategic bidders after 2004.

First, a “quiet revolution” in bank lending greatly increased the availability of debt financing for LBOs during the 2004 to 2007 buyout boom. In general, loans made to finance LBOs cannot qualify as investment grade loans given the significant amount of debt LBOs require, and until the early 1980s, these “leveraged loans” were difficult to obtain due to their enhanced credit risk. The 1980s represented a significant departure from this tradition as commercial banks increasingly made secured term loans to fund leveraged acquisitions, providing approximately 70% of all debt financing for the first wave of LBOs during the early 1980s. As is well known, the 1980s also witnessed the rise of a public market for unsecured, high yield bonds from firms undergoing LBOs, and the ability of LBO firms to raise debt financing through public offerings of “junk” bonds played a critical role in financing many of the LBOs of the late 1980s. Yet even after the rise of the junk bond

124. In general, loans made by banks to corporate borrowers can be divided into two classes: investment grade and leveraged loans. Investment grade loans are loans considered to have a low rate of default risk as reflected in the ratings assigned to the loan by one of the recognized debt ratings agencies. Loans rated Baa3/BBB– or higher reflect a judgment by these agencies that the borrower has adequate payment capacity to honor the loans and the loans are therefore considered “investment grade.” See Damodaran, supra note 19, at 176. The lower default risk associated with investment grade loans makes them easier to obtain from lenders and at lower interest rates. In general, a leveraged loan is defined as any loan that is not investment grade (i.e., any loan rated below Baa3/BBB–). For a discussion of the manner in which ratings agencies rate loans, see id. at 177–79.
126. See Kaplan & Stein, supra note 91, at 330; see also Taylor & Yang, supra note 125, at 23–24.
127. The emergence of these “high yield” or “junk” bonds as a source of acquisition financing was, of course, intimately tied with Michael Milken’s ascent at the investment bank Drexel Burnham Lambert. As summarized by Roberta Romano, “Milken reinvented junk bonds as a financing mechanism for new ventures, and his support of a market for the new issues that he placed, enabled small firms to acquire large ones previously considered impervious to unsolicited bids, and changed the way business was conducted in the United States.” Roberta Romano, After the Revolution in Corporate Law, 55 J. Legal Educ. 342, 348 (2005).
128. Kaplan and Stein, for instance, found that public debt was hardly utilized in LBOs that occurred prior to 1984 but increased greatly thereafter. In fact, much of the increase occurred within a single year’s time, with the percentage of LBOs utilizing public debt increasing from 5.9% in 1984 to between 40% and 61.3% for the years 1985 through 1989. See Kaplan & Stein, supra note 91, at 337. Moreover, they found that the ratio of bank debt to total debt was 11.1% lower in buyouts using junk bonds. See id. at 338. These findings led Kaplan and Stein to conclude that the utilization of public debt likely played a significant role in the “overheating” of the buyout market towards the end of the 1980s. They observed, “This pronounced crowding out of the bank debt by junk bonds is consistent with the notion that overheated junk bond investors were willing to bid more aggressively for buyout loans than were the relatively defensive bankers.” See id.
market, senior secured bank debt remained the core source of debt financing throughout the 1980s. Even at the height of the 1980s buyout wave, high yield, “junk” financing never exceeded 30% of the total amount of debt financing of LBOs, while traditional bank debt never fell below 52%. Today, public, high yield debt financing represents only a sliver of the debt financing used to fund LBOs while traditional “bank debt” continues to dominate by a wide margin.

It is within this core segment of bank lending that a quiet revolution occurred in the 1980s and 1990s that significantly benefited LBO firms during the 2004 to 2007 buyout boom. The revolution started with the rise of syndicated bank loans made to fund LBOs in the mid-1980s. Traditionally, leveraged bank loans were negotiated as bilateral, individual credit agreements between a bank and a lender in much the same way that an individual might obtain a home mortgage. During the 1980s, however, banks began to provide LBO loans by means of syndicating the loans among a large group of banks (the syndicate) in which a single bank acted as the primary arranger in negotiating, drafting, and closing the transaction. Each lender would then hold a proportionate interest in the total loan (generally an amortizing term loan or revolving credit facility), which would be held to maturity for the above-market yield. Significantly, the late 1990s witnessed a substantial decrease in the number of banks willing to participate in leveraged loan syndications due in large part to the promulgation of new banking regulations that limited the holding of highly leveraged loans by banks. In addition, banks also began using

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129. See id. at 331, 337.

130. According to Standard and Poor’s data, public, high-yield bonds constituted only 3.42% of the average source of proceeds for LBOs completed in the fourth quarter of 2006 while bank debt represented 52.41%. See S&P Leveraged Commentary, supra note 76, at 1. The total amount of debt financing for LBOs during this time was 67.3%, indicating that public, high-yield bonds represented approximately 5% of the total debt financing used with bank debt representing over 77%. See id. The role of high-yield bonds has in many ways been taken by the use of “second-lien” loans. See, e.g., Christopher O’Leary, As Libor Keeps Rising, Issuers Start Worrying: When Will Investors Lose Their Taste for Second-Lien Loans?, Investment Dealers Digest, May 15, 2006, at 8, 8 (“Second-lien issuance has taken the place of high-yield bond issuance . . . .” (quoting Amy Gibson, a vice president in the high-yield group at 40/86 Advisors)); Robert Horton et al., Fitch Ratings, High Yield and Leveraged Loan Market Review: Fourth Quarter and 2006, at 3 (2007) (“Much of the second-lien issuance has directly replaced bonds.”). Also known as junior secured or tranche B loans, second-lien loans are bank loans secured by a lien on substantially all of the borrower’s assets, however, the security is subordinate to the claims of other first-lien loans. Prior to 2003, second-lien loans were not commonly sold in the syndicated loan market, but since then, second-lien loan use in syndicated loans has risen dramatically, representing 8% of total institutional loan volume in 2006. See id. at 4. For an overview of second-lien loans, see Marc Hanrahan & David Teh, Second Lien Loans, in The Handbook of Loan Syndications and Trading, supra note 125, at 108.

131. See Taylor & Yang, supra note 125, at 23–24.

132. See id. at 24.

133. In 1989, the Office of the Comptroller of the Currency, the Federal Reserve, and the Federal Deposit Insurance Corporation provided guidelines regarding highly leveraged
portfolio management techniques and profitability models that biased banks against holding leveraged loans.134

In their stead, however, a new group of institutional investors emerged who were drawn to leveraged loan syndications for both their high yield and potential risk-adjusted returns.135 As Figure 9 illustrates, the abrupt transformation of the leveraged lending market from one in which traditional, commercial banks were the primary lenders to one in which these nonbank, institutional investors became the primary source of capital was nothing short of extraordinary.136 Comprised of high-yield mutual funds, insurance companies, hedge funds, and collateralized loan obligations (CLOs), institutional investors radically redefined the leveraged-loan market. In particular, the emergence of these investors facilitated the development of the syndicated loan market into a mature asset class, which greatly enhanced the attractiveness of syndicated loans as an investment option.137 A clear indicator of the manner in which the loan market matured was the exponential growth of the secondary trading market in loan interests. Whereas a total of $8 billion of syndicated loans traded in the secondary market during 1991, the annual trading volume of these loans increased to $238 billion by 2006.138 Significantly, the vast majority of these trades—over 80% by value—involved leveraged loans.139 As a consequence, the leveraged loan market began to attract investors not only because of the yields on the underlying loans, but also because of the opportunity to capitalize on price movements and temporary market inefficiencies.140

transactions that resulted in limiting banks’ holdings of leveraged loans. See Yago & McCarthy, supra note 123, at 16.


135. See Taylor & Yang, supra note 125, at 24.

136. Figure 9 was derived from Scott Page & Payson Swaffield, An Introduction to the Loan Asset Class, in The Handbook of Loan Syndications and Trading, supra note 125, at 3, 3. Today, nonbank, institutional investors acquire almost 80% of all leveraged loan issuances. See S&P Leveraged Commentary, supra note 76, at 3. The growing importance of institutional investors in the leveraged loan market is part of a broader twenty-year trend in all areas of lending where intermediaries such as bank lenders are being displaced by the ultimate source of funds, investors in the capital markets. In addition to leveraged loans, for instance, this process of disintermediation has occurred in the market for home mortgages, auto loans, and credit card receivables. For an overview of this process, see Steven L. Schwarcz, Structured Finance: A Guide to the Principles of Asset Securitization § 1:1 (3d ed. 2002).

137. See generally Page & Swaffield, supra note 136, at 6–18; Yago & McCarthy, supra note 123, at 26–38.


139. See Yago & McCarthy, supra note 123.

140. See id. at 26.
The ultimate result of this transformation was a meteoric rise in the demand for leveraged loans as institutional investors increasingly migrated to the syndicated loan market. In each of 2004, 2005, and 2006, U.S. leveraged loan issuances set new records at $265 billion, $295 billion, and $466 billion, respectively—over twice the amount of capital raised in U.S. public equity markets during the corresponding years.\textsuperscript{141} That the spike in leveraged loans was driven by investor demand for them can be seen in the rapid emergence of CLOs as the dominant institutional investor in the market.\textsuperscript{142} These special purpose investment funds are structured to invest in a portfolio of syndicated loans,\textsuperscript{143} and they experienced remarkable growth following their debut in the early 1990s. The market value of outstanding CLOs grew from less than $1 billion in 1994 to nearly $260 billion in 2004, while their share of the leveraged loan market increased


\textsuperscript{142} See William May et al., Fitch Ratings, CLOs More Concentrated in Shareholder-Friendly and Covenant Light Loans 1 (2006) (“One of the largest sources of increased demand for leveraged loans—both on an absolute and relative basis—has been collateralized loan obligations.”).

\textsuperscript{143} A CLO uses the anticipated cash flows from its loan portfolio as the basis for issuing its own bonds with varying degrees of creditworthiness. As a consequence, a CLO can effectively turn a portfolio of noninvestment grade syndicated loans into a package of investment grade bonds, noninvestment grade bonds, and equity securities that it can sell to the public. For an overview of CLOs, see Bond Mkt. Ass’n, \textit{CDOs: A Primer}, in \textit{The Handbook of Loan Syndications and Trading}, supra note 125, at 709.
from less than 5% to over 60% during the same time period.\textsuperscript{144} Between 2003 and 2006, more than $200 billion of CLOs were issued, with $105 billion being issued in 2006 alone.\textsuperscript{145} Not surprisingly, by the end of 2006 industry commentators began describing the CLO market in terms reminiscent of the dot-com frenzy in the late 1990s.\textsuperscript{146}

For LBO firms, the heightened demand for leveraged loans created an extremely favorable financing environment that helped fund significant acquisition premiums. As shown in Figure 8 above, the growth in median acquisition premiums for LBOs between 2002 and 2006 was accompanied by a corresponding growth in the median amount of debt financing utilized. As in the late 1980s, competition among lenders to secure loans resulted in a greater willingness to finance buyouts at increasing leverage ratios\textsuperscript{147} and to ease credit standards and financing terms.\textsuperscript{148} The ease of financing terms

\textsuperscript{144} See Barry Bobrow et al., \textit{An Introduction to the Primary Market}, in \textit{The Handbook of Loan Syndications and Trading}, supra note 125, at 155, 165–66.

\textsuperscript{145} See id.

\textsuperscript{146} See, e.g., David Henry, \textit{Danger—Explosive Loans}, BusinessWeek, Oct. 23, 2006, at 89, 89 (quoting editor of CreditFlux, an industry news service as stating, “Just about every man and his dog is trying to do a CLO at the moment”); Judy McDermott, \textit{Healthy US CLO Issuance Expected to Continue . . . For Now}, LSTA Loan Market Chronicle, 2005, at 64, 64, \textit{available at} http://www.lsta.org/WorkArea/downloadasset.aspx?id=1570 (“There’s a crazy amount of oversubscription [for new CLO issues] . . . . Even with spreads where they are, [CLOs] can still get done.” (quoting Fred Haddad, senior portfolio manager with GoldTree Asset Management)).

\textsuperscript{147} See, e.g., Harold Blatt, \textit{The Forces Behind Today’s Secured Borrowing Market}, Buyouts, June 6, 2005, at 40, 40 (“[T]here is significant increase in loan market liquidity and aggressive competition from cash flow lenders that has forced asset-based lenders to take more risk to win deals. As a result, debt to EBITDA multiples for leveraged buyouts (LBOs), for example, have climbed to 5 × EBITDA in 2005. That compares to 3.7 × EBITDA in 2001 . . . .”); George Ticknor & David Ruediger, \textit{Return of the Strategic Buyer: A Seller’s Perspective}, Buyouts, Mar. 28, 2005, at 22, 22 (“Banks and finance companies are eager to lend money at leverage multiples that are high by historic standards.”). Much of the competition among lenders appears to have stemmed from a “liquidity supply and demand imbalance.” Blatt, supra, at 40. As a marketing director for Bank of America noted in 2005, “On the demand side, fewer companies are looking for external sources of financing since they’re generating more than enough cash from their operations.” Id.; see also Randy Myers, \textit{Money for Nothing: Bank Credit Is Easy, Maybe Too Easy; Don’t Pass It Up}, CFO, Apr. 2006, at 60, 62 (“Everybody’s looking for funded assets . . . . There is too much liquidity chasing too few dollars . . . . When a [credit] facility does become available where it would be drawn or utilized . . . banks just fall all over themselves to get involved.” (quoting Joseph Chinnici, managing director and head of debt-capital markets for KeyBanc Capital Markets)).

\textsuperscript{148} In its 2006 underwriting survey, for instance, the Office of the Comptroller of the Currency noted that “competitive pressures have led to a third consecutive year of eased credit underwriting standards. Examiners report that national banks have eased underwriting standards for both commercial and retail credit products.” Office of the Comptroller of the Currency, \textit{Survey of Credit Underwriting Practices} 4 (2006), \textit{available at} http://www.occ.treas.gov/2006Underwriting/2006UnderwritingSurvey.pdf. Moreover, it emphasized that competition for loans from nonbank investors “has influenced underwriting terms for leveraged loans and pushed credit spreads lower.” Id. Similar results were found in the Federal Reserve’s Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOS). \textit{See Fed. Reserve Bd., The January 2007 Senior Loan Officer Opinion Survey}
appears to have been especially important for LBO firms. Using loans that had fewer restrictive covenants helped ensure that a target could retain operational flexibility in the event of a business or economic downturn, thereby lessening an important cost of debt financing. The combination of easy bank financing and “covenant lite” credit agreements thus worked to enhance the willingness of LBO firms to use debt financing as a means to bid up purchase price multiples. Commenting on the heavily leveraged buyout of Neiman Marcus, for instance, a partner at Warburg Pincus (one of the LBO firms in the transaction) emphasized the importance of covenant lite loans when pricing the transaction: “If the company hits a speed bump, it gives it liquidity and a cushion . . . . This innovation was one factor enabling us to pay a more aggressive price.”

At the same time, competition among bidders created a strong incentive to tap into this significant source of acquisition financing. As discussed below, the takeover market from 2004 through early 2007 was characterized by highly competitive auctions for targets which LBO firms claimed led to significant pressure to increase purchase price multiples by using more debt financing. In many cases, the investment bank managing a target’s auction would try to ensure this result by offering the same aggressive debt financing package to all bidders in an auction (often referred to as “staple financing”). In November 2006, Hamilton James, president of the Blackstone Group—one of the most active LBO firms—noted that the pressure to remain a competitive bidder in these situations often resulted in leverage ratios that made even the winning LBO firm uncomfortable:

Maybe I’m excusing sponsors, but if a bank is selling a company, offering a staple debt package of 7-1/2 times Ebitda, and you get a down cycle and the company later defaults, is that failure the PE firm’s fault? It didn’t define the level of debt in the deal—the bank did . . . . If you don’t put


that much leverage on, in theory, you can't get the same equity returns as the [LBO firm] who's got a lower cost of capital with more debt.\textsuperscript{151}

Within this aggressive debt financing environment, strategic bidders stood at a distinct disadvantage in light of their historic reluctance to utilize the same degree of debt financing as an LBO firm. Joe Ravitch, a senior media banker at Goldman Sachs, attributed the reluctance to use debt financing as a primary reason “[s]trategic buyers have a hard time competing against private equity firms.”\textsuperscript{152} According to Ravitch, “Private equity funds have an advantage because they can take advantage of low-cost leverage. Public corporations tend to use more expensive sources of capital, such as their own stock, when making deals.”\textsuperscript{153} Not surprisingly, financial and legal advisors began to urge strategic bidders to abandon their traditional reluctance towards using debt financing to increase their competitiveness with LBO firms. For instance, a 2007 article in Mergers and Acquisitions Journal provided a number of suggestions for how strategic bidders could enhance their competitiveness vis-à-vis LBO firms. Topping the list was “Don’t Fear Leverage.”\textsuperscript{154} According to the article, strategic buyers generally shy away from taking on loads of leverage because the management teams have to produce the cash flow to service the debt. Nonetheless, says [Ravi Channugam, a partner in Accenture’s strategy/mergers and acquisitions group], “there has to be better use of leverage by the strategics.” One of the distinct competitive advantages of PE firms is their ability to create deal structures with various combinations of debt and equity.\textsuperscript{155}

Yet the article noted that the advice may not be practical for many strategic bidders given its conflict with the capital structure policies used by most publicly traded firms. It therefore cautioned, “while highly leveraged and richly priced transactions may produce greater returns, they often can produce greater volatility and less earnings predictability, which is not the risk/reward profile that’s desired by many public-company shareholders.”\textsuperscript{156}

Equally important in explaining the narrowing of the pricing gap between strategic and LBO bidders was the evolution of the LBO industry during the late 1990s and early 2000s. By 2000, the LBO market was considerably different from that of the 1980s, both in terms of its size and the degree of competitiveness among LBO firms. Whereas an estimated 113 LBO firms managed approximately $4.5 billion in capital in 1980, an estimated 2700 LBO firms managed over $500 billion at the end of 2006.\textsuperscript{157}
Simultaneously, the creative financial engineering strategies that fueled the 1980s buyout boom had become standard practice for every LBO firm and even for many prospective targets.158 As Bengt Holmstrom and Steven Kaplan have argued, U.S. companies in the 1990s routinely began to follow many of the principles pioneered by LBO firms in the 1980s, such as a focus on enhancing shareholder value and the use of incentive-based compensation.159 As a consequence, the ability to add significant value by simply using traditional LBO strategies became considerably less likely than in the 1980s. Adding to this challenge was the rise of the competitive auction. Beginning in the 1980s, sellers of firms increasingly used investment banks to conduct auctions among LBO firms and strategic bidders as a means to secure greater acquisition premiums.160 For LBO firms, these developments heightened the need to find a competitive advantage in an increasingly crowded marketplace.161

Motivated by these competitive pressures, LBO firms began in the 1990s to focus on operational efficiencies as a potential source of value creation in leveraged acquisitions. As one industry observer summarized,

In the mid-1990s, a new investment model emerged with an added slant: operational value building. This called for more CEO-style thinking, with a focus on top-line growth and boosting profitability in ways that nurture, rather than gut, businesses. Soon, “value creation” became an LBO industry mantra. (Not coincidentally, it was about this time that LBO specialists started calling what they do “private equity.”)162

By 2000, the transition to this new model appeared to have been largely complete. According to one industry survey conducted in 2000, general partners of LBO firms indicated that from 1986 to 1990, financial leverage contributed 41% to average LBO returns while operating improvement accounted for 34%; by contrast, from 1996 to 2000 operating improvement contributed 43% to average LBO returns, while financial leverage had fallen to 24%.163 Indeed, during 2006 and 2007, this enhanced focus on

160. See supra note 83; see also Harper & Schneider, supra note 158, at 2 (“Almost all significant deals today are subject to a visible and public auction process as sellers seek the maximum price. In many large deals, the number of bidders, both alone and in consortia, can reach double digits.”).
163. See Janet Whitman, Something Ventured: LBO Firms Seek Hands-On Expertise, Dow Jones News Serv., Apr. 2, 2003 (on file with the Fordham Law Review); see also Harper & Schneider, supra note 158, at 4 (“Several buyout firms now recognize that they can create value (in conjunction with management teams) by participating more in managing the companies in their investment portfolio and by developing cross-industry functional
value creation—along with the resulting jobs it creates—became a critical part of a large-scale marketing campaign by LBO firms to enhance the international image of private equity.164

This new LBO model also appeared in a number of industry trends that occurred after 2000. For instance, because these “entrepreneurial” buyouts demand significant operational skills, a noticeable change occurred in the composition of general partners at many LBO firms. Whereas general partners in the 1980s had their roots in the corporate finance divisions of investment banks, LBO firms in the 1990s began recruiting prominent executives from Fortune 500 companies as partners or advisers and assembling panels of executives with expertise in particular industries.165 Likewise, this entrepreneurial philosophy appeared in the rise of a variation of the leveraged buyout—the leveraged buildup. In a leveraged buildup, an LBO firm pursues a “buy and build” strategy in which it uses an existing portfolio company to pursue multiple strategic acquisitions.166 By
combining multiple businesses within a single company, an LBO firm can then realize operating synergies in much the same way that a traditional strategic bidder might. Perhaps most significantly, LBO firms demonstrated a marked tendency to specialize within particular industries as a way of gaining operational expertise that they could leverage into potential operating synergies.\textsuperscript{167} Increasingly, LBO firms collaborated with other LBO firms (and even strategic bidders) with complementary skill sets to form bidding consortia that might offer significant growth strategies in their bids.\textsuperscript{168} In short, LBO firms—either singly or through collaborative bidding—began acting like strategic bidders in their attempt to pursue potential operating synergies.

Significantly, by behaving like quasi-strategic buyers, LBO firms could also begin modeling their anticipated operating synergies into their takeover bids. The result was the gradual erosion of the historic pricing gap between LBO firms and strategic bidders during the late 1990s\textsuperscript{169}—a gap that appears to have been filled by aggressive debt financing following the meteoric rise in the demand for leveraged loans in 2004. Unwilling or unable to tap into this valuable source of debt financing, strategic bidders thus lost their traditional pricing advantage in competitive bidding contests.

3. Efficient or Inefficient Takeover? The Case of Equity Office Properties

Thus, the story of the recent buyout boom is highly suggestive that LBO firms’ more aggressive use of debt financing may have frequently played a deciding factor in their ability to outbid strategic bidders. Consequently, to the extent strategic bidders generally produce greater operating efficiencies

\textsuperscript{167} See Harper & Schneider, supra note 158; see also Five Questions with . . . Justin Abelow Director, Houlihan, Lokey, Howard & Zukin, Buyouts, Oct. 31, 2005, at 50, 50 (noting that LBO firms “are . . . increasingly organized internally into industry silos, . . . so even in the absence of [platform] portfolio companies they are bringing to bear highly-refined industry expertise.”).

\textsuperscript{168} See Harper & Schneider, supra note 158.

\textsuperscript{169} See David Snow, Multiples Show Who’s Hot, Who’s Not, Buyouts, Feb. 21, 2000, at 1, 23 (noting that “financial buyers lately have been even more aggressive than strategic buyers in their bids, particularly when acquiring add-ons” because “[w]hen making an acquisition through a platform company, financial buyers can afford to make the same bids as traditional strategic buyers”); see also Five Questions with . . . Justin Abelow Director, Houlihan, Lokey, Howard & Zukin, supra note 167, at 50 (“[N]ow we are really seeing financials acting more like strategics, in a whole variety of ways. First, of course, they are acting increasingly through portfolio companies, effectively mimicking strategic synergies and therefore pricing behaviors.”); Jennifer Strauss, Amidst Turmoil, Multiples Stay Steady, Buyouts, Feb. 19, 2001, at 1, 1 (noting that the “line between financial buyers and strategic buyers started to blur last year as both groups paid similar prices for similar companies, which sources attributed to a higher degree of specialization with private equity portfolios.”); Kopin Tan, Multiples Jump, Yet Again, as LBO Firms Close Gap, Buyouts, Feb. 23, 1998, at 1, 46 (“Sources came up with a variety of reasons explaining the closing of the pricing gap. For a start, with more buyout firms pursuing buy-build strategies, G.P.s increasingly are chasing synergies and behaving like quasi-strategic buyers.”).
and merger synergies than LBO firms, this uneven use of debt financing may have led to any number of suboptimal takeovers. Yet it is also imperative to emphasize the difficulty of determining this for certain, particularly in light of LBO firms’ increasingly entrepreneurial approach to buyouts. In this regard, the story of the recent buyout boom is as much about the need to be cautious in using the allocational efficiency normative paradigm as it is about showing how debt financing can lead to suboptimal takeovers.

To see why, consider the difficulty of using the allocational efficiency normative paradigm to analyze the 2007 record-setting LBO of Equity Office Properties (Equity Office) by the Blackstone Group (Blackstone). In February 2007, Blackstone acquired Equity Office, a publicly traded real estate investment trust, for $39 billion, displacing HCA as the largest LBO in history. The final purchase price represented a significant increase from Blackstone’s original offer of $36 billion, which it had negotiated with Equity Office in the fall of 2006.170 The reason for the increase was the emergence of Vornado Realty Trust (Vornado) as a competing bidder in January 2007.

As a publicly traded real estate investment trust (REIT), Vornado was attracted to Equity Office due to its significant office holdings in a number of coastal cities. Although Vornado planned on selling approximately $20 billion of Equity Office’s properties after the transaction, its primary motives for its bid were synergistic in nature: to “combine [Equity Office’s] best assets in key coastal markets with Vornado’s existing office platform in New York and Washington DC,” to “[i]ntegrate the two portfolios to create a series of powerful operating platforms in high growth, high barrier-to-entry markets on each coast,” and to “[e]mploy Vornado’s operating disciplines of leasing and expense control to enhance each asset’s profitability.”171

Yet Blackstone, one of the largest LBO firms in the country, appears to have anticipated some operating synergies of its own. Of the $67 billion Blackstone had raised for LBOs, almost 20% had been devoted to real estate transactions.172 Formed in 1992, Blackstone’s real estate group had considerable experience in real estate investing and property management. By the spring of 2007, it had invested in 214 separate real estate transactions with a total enterprise value of over $102 billion.173 Many of these transactions were conducted in partnership with major real estate operating companies such as Edward J. DeBartolo Corp., Host Marriott,

172. Equity Office Agrees to Be Acquired by the Blackstone Group, supra note 170.
Accor, and Berkshire Realty Company. In addition, at the time of the acquisition, the group had approximately forty real estate investment professionals on staff. Not surprisingly, in announcing its original agreement with Equity Office, Blackstone’s remarks were decidedly synergistic as well: “We believe that the skills and strengths of Equity Office will greatly enhance our existing office platform, which has been expanded through our recent acquisitions of CarrAmerica and Trizec.”

In the end, Blackstone’s anticipated synergies may have been just enough to allow it to use aggressive debt financing to win the contest. At $41 billion, Vornado’s offer clearly exceeded even Blackstone’s final offer, but its offer to the Equity Office stockholders consisted of a combination of 45% stock and 55% cash. In its shareholder proxy statement, Equity Office explained that this combination of consideration reduced the value of Vornado’s offer as compared to Blackstone’s all-cash offer for two reasons. First, Vornado would be required to obtain its own stockholders’ consent before it could issue stock in the transaction, adding uncertainty to the offer. Second, the solicitation of Vornado’s stockholders would result in a significant delay in closing of up to four to six months.

Vornado, of course, was well aware of these concerns based on Equity Office’s initial response to its offer and could have avoided them altogether by making an all-cash bid. Doing so, however, would have required Vornado to increase its level of debt financing, an option that would have likely conflicted with what it believed to be a satisfactory financing policy for a publicly traded REIT. In many ways, its original offer was already pushing this policy to the limit given that Vornado intended to fund the cash portion of its offer with debt financing amounting to 75% of the transaction value. However it was careful to emphasize to analysts and stockholders that it planned to reduce this debt burden to 40% of Vornado’s total capitalization within one year of the transaction by selling off $10 billion of Equity Office assets. The sales, Vornado assured analysts, “will allow us to bring leverage down and retain our balance sheet flexibility.” Moreover, in addressing the question, “Why are you using 45% stock?” in its discussion of the offer with analysts, Vornado further emphasized its desire for financial flexibility:

We have always maintained a disciplined approach to our balance sheet and want to appropriately capitalize this portfolio. The amount of stock

175. Equity Office Agrees to Be Acquired by the Blackstone Group, supra note 170.
176. Id.
177. Vornado Realty Trust, supra note 171.
179. See id.
180. See Vornado Realty Trust, supra note 171.
181. Id.
being issued is based on the amount of equity we believe will maintain our balance sheet flexibility over the long-term.\textsuperscript{182}

Free from these concerns and comfortable with a highly leveraged capital structure, Blackstone could utilize a greater degree of debt financing to submit its faster, more certain offer—its final, all-cash offer was funded with debt financing amounting to 83\% of its total bid.\textsuperscript{183}

So who was the optimal bidder from the perspective of allocational efficiency? Certainly, one could argue that the story of Equity Office is simply a story about how Blackstone used aggressive debt financing to impede a socially optimal bidder from acquiring target. As this Article has demonstrated, the implicit subsidy of debt financing is real, and Blackstone’s financing structure would appear to be tapping into this subsidy to compete with Vornado in much the same way that ManagementCo used debt financing to compete with StrategyCo in Part II.A. Yet this conclusion is made difficult by the fact that, as a REIT, Equity Office effectively paid no corporate income tax,\textsuperscript{184} and Blackstone’s bid was structured to ensure that the surviving business would also be treated as a flow-through entity for federal income tax purposes. As such, the normal tax shields that arise from debt financing were actually not available for the surviving firm and, consequently, could not be used by Blackstone in valuing Equity Office.\textsuperscript{185} Accordingly, while this Article has sought to emphasize how the implicit subsidy of debt can often affect bidding outcomes, the Equity Office transaction must ultimately serve as a telling reminder that an LBO firm acting as a quasi-strategic bidder does not necessarily need the implicit subsidy of debt finance to outbid a strategic bidder.

In the end, then, this more granular analysis of the general trend of LBO firms to compete successfully with strategic bidders makes it less than clear whether any particular buyout represents an inefficient takeover. But what remains clear is that unless we take financing seriously, takeover scholarship will continue to conclude wrongly that the highest priced offer is necessarily the optimal offer and, in the process, will continue to risk advocating legal rules that promote inefficient takeovers.

\section*{Conclusion}

This Article has sought to introduce into legal scholarship a fact well known among financial economists, investment bankers, and company

\begin{itemize}
\item \textsuperscript{182} Id.
\item \textsuperscript{183} Equity Office Properties Trust, Proxy Statement (Schedule 14A) (Jan. 29, 2007), available at http://www.secinfo.com/dsvRm.u11z.htm.
\item \textsuperscript{184} In a REIT, 95\% of the net income is passed through to the stockholders and not taxed at the corporate level. I.R.C. \S S 856–859 (2000).
\item \textsuperscript{185} Cf. Jeffrey F. Jaffe, \textit{Taxes and the Capital Structure of Partnerships, REITs, and Related Entities}, 46 J. Fin. 401 (1991) (providing proof that the value of a REIT is invariant to leverage decisions due to the absence of corporate taxes).
\end{itemize}
managers: it matters how a bidder finances an acquisition offer. In every acquisition, a bidder has the option of using debt financing, and when it does, an implicit government subsidy will ordinarily appear in its ultimate valuation of a target. Moreover, because financing policy is endogenous to a firm, bidders will differ in their use of debt financing, thereby allowing this subsidy to affect bidding contests particularly during periods of robust credit markets, such as the market that existed during 2004 to 2007.

As this Article has shown, appreciating the influence of bidders’ divergent financing decisions on bidding outcomes has considerable implications for analyzing real world takeovers. For takeover scholars, bidders’ divergent use of debt financing poses a fundamental challenge to the standard efficiency framework traditionally used to analyze corporate acquisitions. In particular, the ability of bidders’ financing decisions to affect bidder valuations reveals the inherent difficulty of using a bidder’s offer price as a proxy for its ability to put a target’s assets to productive use. Given the implicit subsidy of debt financing, the highest bidder in a takeover contest may simply be the bidder that is most willing to tap into this subsidy rather than the bidder that will optimize a target’s business. As a result, accurate analysis of allocational efficiency in real world takeovers requires careful attention to how bidders form their valuations.

Likewise, for corporate directors considering a takeover bid, this Article emphasizes the need to study closely the relationship between a bidder’s financing decision and its valuation of the target company. In light of this relationship, a target’s board can gain considerable insight into the value proposition of a proposed takeover bid by explicitly examining a bidder’s anticipated financing structure. Equally important, the analysis presented here should encourage directors to understand how particular financing decisions—and therefore particular sources of acquisition premiums—are often tied to particular types of bidders. As this Article has demonstrated, the highly leveraged capital structure of an LBO is likely ill-suited for most publicly traded bidders. Understanding this feature of corporate finance might be critical for a board seeking to discharge its fiduciary obligation of care when assessing an acquisition offer from an LBO firm.

186. Not surprisingly, a discussion of a bidder’s anticipated acquisition financing is a standard part of most presentations made by a target’s financial advisors to a target’s board of directors. See, e.g., Credit Suisse Sec. (USA) LLC & Morgan Stanley & Co., Project Hero, Presentation to the Board of Directors of HCA Inc. (July 23, 2006), available at http://www.secinfo.com/dsVs/v7Fu.b.htm.

187. The significance of this point was vividly illustrated during late 2006 as the recent buyout wave reached its crest. Faced with the choice of approving or rejecting a buyout offer from an LBO firm, target shareholders began to vote down proposals with increasing frequency. In some cases, target shareholders explained their “no” votes on the basis that the target’s own management should be able to effect the changes proposed by the LBO firms through a leveraged recapitalization, thereby allowing the target’s existing stockholders to realize the considerable returns expected by the LBO bidders. Following the announcement of a proposed LBO of Clear Channel Communications, for instance, one prominent shareholder objected to the proposal on the grounds that the company’s managers should engage in a “do-it-yourself leveraged buyout.” Dennis K. Berman & Sarah McBride, Clear
Lastly, for Congress, too, this Article has important implications. Indeed, the fact that debt financing can impair allocational efficiency in the takeover market is fundamentally a challenge for tax policy. While it is beyond the scope of this Article to discuss the wisdom of the corporate level tax that gives rise to this challenge, it is important to address in closing at least one question implicit in this Article’s thesis: should Congress be concerned if existing tax law impairs allocational efficiency?

To be sure, the goal of promoting an allocationally efficient takeover market is not one that has traditionally motivated tax policy. But one need only consider the consequences of a takeover wave dominated by highly leveraged bids to see why Congress might be concerned with the implicit subsidy of debt financing. Indeed, given the credit crisis that has followed the buyout wave of 2004 to 2007, Congress would seem to have a very real interest in any tax rule that encourages bidders to use ever-greater amounts of debt financing to remain competitive in an auction setting. To the extent bidders miscalculate the financial distress costs of leverage, such a takeover wave may significantly enhance the overall level of systematic risk in the economy. These concerns are only accentuated by considering the more prosaic effect of such a takeover wave on tax revenue: as target firms enjoy the benefits of larger tax shields, an important source of tax revenue could quickly diminish.\(^{188}\)

In short, Congress, boards of directors, and legal academics must all take seriously the power of debt financing to affect bidding outcomes. Admittedly, such an endeavor will make more complicated and nuanced the

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\(^{188}\) An examination of the relationship between the most recent LBO wave and tax revenue is very much in order. The primary academic study of the extent to which LBOs result in a reduction in the corporate tax base was last conducted in 1989 following the 1980s buyout wave. See Michael Jensen et al., Effects of LBOs on Tax Revenues of the U.S. Treasury, 42 Tax Notes 727 (1989). The authors estimated that, notwithstanding the reduction in corporate tax receipts due to the heavy use of leverage, the U.S. Treasury likely had a net gain in tax revenue from the buyout wave owing to an increase in capital gains taxes assessed on target shareholders, an increase in taxable interest payments paid to corporate debt holders, and an increase in corporate taxes as targets realized greater operating efficiencies. Given the considerable changes to the buyout market identified in this Article, it is unclear whether these conclusions would continue to hold today. In particular, many of the holders of leveraged loans are no longer banks, but institutional investors such as CLOs who may often be either tax exempt or non-U.S. taxpayers that pay no tax on portfolio interest. See supra text accompanying notes 135–40. I am grateful to Vic Fleischer for this insight.

Channel Showdown Signals Investor Wariness of Private Buyouts, Wall St. J., Jan. 27, 2007, at A1. As the shareholder explained, “All the analyst reports say that private equity will be making 23% [annual returns] on their investment. I find 23% a rather attractive proposition, and I want it.” Id. (quoting Jeremy Hosking). One must, of course, take seriously the contention that a target’s managers have indeed failed to optimize the target’s business. Yet when it comes to mimicking an LBO firm’s proposed capital structure, a target’s shareholders and directors would be well advised to take seriously the central point of Part I: the ability to utilize aggressive amounts of debt financing varies among companies for reasons that may have nothing to do with agency problems. Failing to consider the very real limitations even loyal managers face in determining a firm’s optimal capital structure risks overlooking—and perhaps even rejecting—the unique value offered by an LBO.
standard efficiency paradigm that has traditionally guided takeover analysis. But to continue to ignore the systematic importance of finance in the name of analytical simplicity is to reify a model of takeovers that is not only inconsistent with the realities of everyday life but likely to confuse efficient with inefficient takeovers.