Does Private Equity Create Wealth?

Law Working Paper N°.113/2008
August 2008

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ECGI Working Paper Series in Law

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The authors would like to thank James Spindler, Todd Henderson, and the participants of the University of Chicago's conference, "The Going Private Phenomenon" for their helpful comments.

Abstract

Private equity has reaped large rewards in recent years. We claim that one major reason for this success is due to the corporate governance advantages of private equity over the public corporation. We argue that the development of substantial derivative contracts and trading has significantly weakened the governance of public corporations and has created a need for financially sophisticated directors and much closer supervision of management. The private equity model delivers these benefits and allows corporations to be better governed, creating wealth gains for investors.

Keywords: private equity, corporate governance, contracts, trading, public corporations, subprime

JEL Classifications: G3, K2, K22

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Introduction

Does private equity create value when it acquires a company in a leveraged buyout? If so, how? This question has fascinated scholars ever since the first big wave of buyouts occurred in the mid-1980's, but has yet to be resolved.[1] A second, even larger wave of LBO transactions in 2003-2007, brought to a shuddering halt by the recent sub-prime mortgage crisis, has raised the question again as the current market for private equity deals has collapsed. While many of the old arguments about underlying rationales for private equity deals have survived this dramatic downturn, we offer an important new motivation for such deals in the future: private equity firms and managers can do a better job of monitoring of derivative transactions and derivative contract positions than their public company counterparts.

As the subprime crisis has illustrated vividly, the growing use of, and trading in, derivative instruments by corporations[2] has eroded the effectiveness of several critical corporate governance mechanisms – the board of directors, the financial accounting system and oversight by regulatory authorities – because firms lack effective means of monitoring derivative risk exposure on a real time basis. This change has increased the importance of attracting financially sophisticated, highly motivated corporate directors, who can deliver intensive monitoring of corporate risk management strategies, who are capable of independently and effectively controlling firm management to regulate

[1] The earliest and best known paper is Michael C. Jensen, The Eclipse of the Public Corporation, 67 Harvard Business Review 61 (1989) (positing that private equity owned firms would do a better job of managing free cash flow than public companies) [hereinafter Jensen, Eclipse]. For further discussion of this literature, see section II infra.

[2] Derivatives are generally defined to include options, futures and forward contracts and swaps, as well as financial products with derivative contracts embedded in them, such as convertible securities, insurance and reinsurance.

derivative exposure and who will make the appropriate choices in creating managers' financial incentives to insure that these executives' personal risk exposures are aligned with the interests of the firm.

In this paper, we argue that private equity concentrated ownership is now, and will continue to be in the future, a very effective way of attaining all of these objectives. Private equity involvement strengthens boards' monitoring of derivative exposures by reducing board size, increasing boards' control over managers, improving information flows to the board, sharpening director financial incentives to monitor derivative exposure carefully, and attracting highly qualified, more financially sophisticated directors, who better understand the associated risks. These strengths may be particularly important in the financial services sector, where commercial banks have experienced tremendous write-downs of their loan portfolios in recent months.[3] Regulators and private equity firms are looking carefully at how to best facilitate greater investment in the sector by private equity firms.[4]

Large increases in debt also create strong managerial incentives to improve firm efficiency because it (1) makes the stock much more sensitive to improvements in firm value and (2) motivates managers to use firm cash conservatively and eliminate underutilized assets so as to minimize risk of bankruptcy and financial distress, which are states where forced CEO turnover is more likely. Further, debt holders and institutional investors can further improve firm monitoring since they are also large investors (who

[3] Dan Wilchins, Private Equity is Viewed as a Shock Absorber, International Herald Tribune, July 1, 2008, at 17 (banks are in "dire need of capital" and private equity may be able to provide it).
[4] Robin Sidel, Private Equity Firms, Funds Take New Look at Ailing Banks, Wall St. J., July 25, 2008, at C1 (regulators likely to be "more flexible" in allowing private equity investments in banks and private equity firms are interested); Wilchins, supra note 3 ("The Federal Reserve is considering adjusting rules that make it hard for investors to buy more than 9.9 percent of a bank's shares without seeking permission from regulators" in order to facilitate private equity investment in the sector); The Lex Column, Beyond Buyouts, Financial Times, April 9, 2008.

frequently hold both debt and equity positions in private equity controlled firms),[5] which gives them strong incentives to monitor and good access to proprietary firm information flows to accomplish this goal. Thus, the shift toward greater private equity ownership in the economy can be viewed as a value creating response to increased derivative activity and contract exposure levels by corporations and financial institutions, especially in less competitive industries, where product market competition is a less effective alternative mechanism for motivating managers to improve firm efficiency and profitability.

This paper is structured as follows. In section I, we explain the institutional details of private equity investing and private equity firm monitoring of their portfolio firms. Section II discusses prior theories of why private equity investing creates value. We then turn to the implications of the increased usage of derivative securities for corporate governance at public companies, arguing that it has created important new challenges at these corporations, especially for financial institutions. Section IV analyzes how private equity benefits investors by improving monitoring of private equity portfolio firm derivative risk management practices by equity investors, debt holders and institutional investors. We conclude with a brief summary and discussion of the future areas for private equity investment.

I. Private Equity's Growth in Recent Years

A. Background

[5] Michael C. Jensen, Corporate Control and the Politics of Finance, 4 J. Applied Corp. Fin. 13, 25 (1991) explains that this common practice is referred to as "strip financing," which Jensen defines as investors holding "roughly proportional 'strips' of all securities in the capital structure" and thereby reducing any conflicts of interest among the classes of claimants at firms.

What is private equity? The category of investments that fall within the general rubric of private equity includes venture capital, mid-stage company finance, distressed firm investment, leveraged buyouts (LBOs) of firms, divisions or subsidiaries of public and private companies, and going private deals. In this paper, we are primarily concerned with private equity buyout funds that are repeat players in the buyout markets ("buyout shops'), who facilitate LBOs and other going private transactions.

Private equity funds' relationships with their investors have not been extensively studied due to stringent data limitations. One important exception is Metrick and Yasuda[6] who examine the structure of private equity funds using a sample of 238 funds raised from 1992 to 2006. They document that "virtually all" private equity funds are set up as private limited partnerships with a ten year term where outside investors act as passive limited partners and the private equity firm is the controlling general partner. Limited partners have limited or no withdrawal rights prior to the expiration of the ten year term, and are potentially subject to additional capital calls by the private equity general partner.

Private equity management firms periodically raise capital for new funds, usually every three to five years.[7] This system has the advantage of permitting investors in previous funds to observe the private equity group's performance over time and to choose whether to invest in later funds based on the private equity firm's prior performance. Furthermore, each fund has a limited life so the general partners must raise new funds to continue investing. In order to raise new funds they are under great pressure to

[6] Andrew Metrick and Ayako Yasuda, The Economics of Private Equity Funds, Working Paper available at http://ssrn.com/abstract=996334 (2007).
[7] Metrick and Yasuda, supra note .

demonstrate good performance for their existing funds.[8] The buyout firms earn fees from a variety of different sources: management fees, which are typically 2% of committed and/or invested capital; carried interest, usually 20% of the profits earned by the fund on its investments, subject to various adjustments, thresholds and hurdles; transaction fees which are paid to the fund when it buys or sells a portfolio firm; and monitoring fees for its work helping to manage the firm while it is owned by the buyout firm.[9]

Most private equity firms use similar financing techniques in acquiring portfolio firms. The typical LBO, or going private transaction, is structured as a purchase of all of the publicly held stock of a public corporation by a privately held acquisition vehicle.[10] A private equity buyout shop generally controls this entity with other types of buyers being much less common.[11] The private equity firm sponsoring the transaction will obtain its capital from the equity contributions of its buyout fund and the managers of the portfolio firm plus the cash proceeds from loans secured by the assets of the target firm. As part of the acquisition, managers of the private firm obtain a significant equity interest in the firm. Normally, top managers in private equity-owned firms have equity interests that are 10 to 20 times bigger than that held by their public company counterparts.[12]

[8] This is especially the case since these investors are already identified as interested in private equity investments and most likely to become limited partners in future funds, provided they did well in prior funds.
[9] Metrick and Yasuda, supra note .
[10] James F. Cotter and Sarah W. Peck, The Structure of Debt and Active Equity Investors: The Case of the Buyout Specialist, 59 J. Fin. Econ. 101, 102-103 (2001).
[11] Id. at 111-112.
[12] Steven N. Kaplan, The Effects of Management Buyouts on Operating Performance and Value, 24 J. Fin. Econ. 217 (1989) [hereinafter, Kaplan, Effects of Management Buyouts]. Jensen states that,"Top-level managers frequently receive 15-20 percent of the equity." Michael C. Jensen, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, 76 Am. Econ. Rev. 323, 326 (1986)[hereinafter, Jensen, Free Cash Flow].

The general partners in private equity funds are actively involved in the strategic direction of the firm.[13] They normally have operational control over the firm through their control of its board of directors. In LBO funds and other private equity funds, the general partners act as advisors to the portfolio firm's management, and as members of the firm's board of directors, drawing on their expertise in corporate restructurings and their contacts throughout the industry to assist in creating value in its portfolio firms. However, when needed, the private equity partners can use their control to swiftly remove underperforming executives or to challenge management to perform better.[14]

The boards of LBO portfolio firms are typically comprised of the CEO, private equity firm representatives and outside industry experts, and primarily act to advise management on strategic considerations.[15] They are more effective than public company boards, as "even the best part-time independent directors are not the equivalent of full time, highly incentivized private equity managers."[16] The CEO is not usually the board's chair, while the other officers are active ex officio members, creating a stronger corporate governance system.[17] In addition, the boards tend to be smaller and meet more often, facilitating more rapid decision making.[18]

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[13] Jensen, Economic Case, supra note .
[14] Brian Cheffins and John Armour, The Eclipse of Private Equity, 33 Del. J. Corp. L. forthcoming (2008).
[15] Geoffrey Colvin and Ram Charan, Private Equity, Private Lives, CNN Money.com, November 27, 2006 (Private equity firm boards are different from public company boards and "far more involved in assisting the company."); Cotter and Peck, supra note , at 137 ("Thus, buyout specialists are likely to more effectively monitor managers by having more seats on the board and by having smaller boards.")
[16] Ronald J. Gilson and Charles K. Whitehead, Deconstructing Equity: Public Ownership, Agency Costs, and Complete Capital Markets, ECGI Working paper (2007), at 35.
[17] Jensen, Economic Case, supra note .
[18] See, e.g., Robert Gertner and Steven Kaplan, The Value Maximizing Board, NBER Working Paper (1996); Viral V. Acharya and Conor Kehoe, Corporate Governance and Value Creation Evidence from Private Equity, London Business School Working Paper, 2008 and Francesca Cornelli and Oquzhan Karakas, Private Equity and Corporate Governance: Do LBOs Have More Effective Boards?, World Economic Forum: The Global Impact of Private Equity Report (2008).

Unlike public companies, boardroom activity in LBO firms is less concerned about regulatory compliance, committee work, and process.[19] There is better information available to top management and board level because of initial extensive due diligence and because of the more intense operational focus.[20] Moreover, there is a different social dynamic on the board, so that anything can be discussed and all assumptions are subject to reconsideration.[21]

Given the finite life of the LBO limited partnerships, general partners need to manage their LBOs firms with an eye toward ultimately liquidating their investment. The primary exit choices are to take the firm public in an IPO (reverse LBO), sell to a strategic buyer, sell to another private equity fund, or conduct a piecemeal liquidation. IPOs typically yield the highest return for the private equity fund's investors, while trade sales to strategic buyers are generally considered the second best option.

B. The Development of Private Equity Capital

Private equity financing started from rather modest roots. Prior to 1980, the total amount of capital in the private equity market equaled between $2.5 and $3.0 billion with new capital inflows at less than $100 million a year.[22] Only in the 1980s, after deregulatory initiatives at the Department of Labor and the SEC removed important obstacles to institutional investors' putting large amounts of capital into the asset class,

[19] Cheffins and Armour, supra note .
[20] Jensen, Economic Case, supra note .
[21] Michael C. Jensen, The Modern Industrial Revolution: Exit and the Failure of Internal Control Systems, 48 J. Fin. 831, 863 (1993) [hereinafter, Jensen, Modern Industrial Revolution]; Jensen, Economic Case, supra note .
[22] Daniel A. Wingerd, The Private Equity Market: History and Prospects, 1 Investment Policy 26, 30 (1997).

did the first private equity boom begin.[23] The mid- to late part of the 1980s were an active period for LBOs, before market conditions changed and LBO activity declined rather sharply in the early 1990s.

Over the past several years, there has been an explosion in private equity fund raising. Recent estimates are that in 2005-2006, the private equity/LBO market had reached 5% of the capitalization of the U.S. stock market, or about 1.4% of global GDP.[24] The rapid growth in this market arose from favorable credit market conditions, a huge increase in the size of private equity funds' resources and the increased importance of hedge funds.

After mid-2007, however, private equity financed deals dropped off sharply. Increasing competition among bidders had driven deal prices higher, while accommodating credit markets permitted the average multiple of debt to cash flow to rise to historically high levels.[25] Increased purchase prices and greater debt loads led to higher default risks for the newly private firms. Things fell apart when the credit market for private equity leveraged financing seized up around the same time as the subprime mortgage market collapsed. Not only did this stop new financing from being raised for new private equity deals, but it also left huge inventories of debt instruments on the books of major banks from the older deals that they had already agreed to finance.

A related problem is the decline in the quality of many of the securities being used to finance these transactions. Financial institutions originating the bank loans that were financing the vast upsurge in private equity deals were not retaining these loans on

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[23] Wingerd, supra note ; Valentine V. Craig, Merchant Banking: Past and Present, FDIC Banking Review, available at http://www.fdic.gov/bank/analytical/banking/2001sep/article2.html, at 29, 30.

[24] Viral Acharya, Julian Franks and Henri Servaes, Private Equity: Boom or Bust?, 19 J. Applied Corp. Fin. 44 (2007).

[25] Steven Rattner, How the Levers Fell Off The Buyout Machine, Financial Times, March 25, 2008.

their own books, but rather were syndicating them and selling them into the secondary market. Because the originating banks were realizing large fees upfront and then reselling these securities to third parties, the originating banks' incentives to carefully assess the risks of each loan, to screen out weak applicants and to monitor their ongoing health were significantly weakened.[26] This created incentives for excessive risk taking in the LBO market. Compounding this problem, many of these deals used "covenant lite" debt, where, because of highly competitive credit market conditions, LBO lenders agreed to accept weaker contractual protections that reduced lenders' ability to constrain or discourage opportunistic managerial conduct at these newly privatized firms.

While signs of a turnaround in the private equity market recently have been detected by some observers, the timing and prospects of this recovery remain uncertain.[27] One question that hangs over the future of the industry is how strong are its claims that it increases value for investors? Equally importantly, assuming that private equity does create value for investors, what are the sources of that value? In the next section, we address these questions.

II. Does Private Equity Create Value?

Since private equity deals first became popular in the 1980s, academics have focused a substantial amount of attention on whether they create value for shareholders. Furthermore, the sources of the value that may be created by private equity transactions are crucial because some of them may involve wealth transfers or tax subsidies rather than social welfare improvements.

[26] Acharya, et al, supra note .
[27] Serena Ng and Liz Rappaport, Signs of a Thaw in the Deal Market?, Wall Street Journal, May 15, 2008, at C1.

A. Improvements in Corporate Governance and Reduction of Agency Costs

The most commonly cited argument in favor of private equity creating value is that these transactions lead to improved corporate governance and agency cost reductions. However, the source of those agency cost reductions has been subject to some dispute and five main (overlapping) theories have been proposed, which focus on different improvements in corporate governance. First, some authors have claimed that LBOs reduce managers' discretion to misuse free cash flow by insuring that they must make debt service payments, by focusing them on more efficient operations and by creating strong personal incentives to work hard to avoid bankruptcy. In this vein, Michael Jensen argues that going private transactions reduce the agency costs of equity by cutting down on manager's discretion to misallocate cash into empire building, empire preservation and excessive perquisites.[28] Empire building and empire preservation in the face of poor performance is directly contrary to the interests of the company's shareholders. Thus, executives' single-minded focus on generating cash flow to pay down a firm's high debt shifts the focus of management from expanding the business in slow growth areas to growing the equity value of the firm as rapidly as possible, even if it involves reducing sales and getting rid of assets.

Jensen argues that adding debt to a company's capital structure results in a more credible commitment by management to pay out future cash flows, rather than investing them in negative present value projects. In essence, by exchanging debt for equity, managers bond themselves to pay out future cash flows and not to retain or reinvest them in unprofitable ventures. Moreover, in Jensen's view, the increased risk of financial

[28] Jensen, Eclipse, supra note 1.

distress motivates private equity owned firms' managers to make their companies more efficient.

A second and related claim about the source of potential agency cost reductions from going private transactions arises out of a strong realignment of managerial incentives with shareholder interests so as to focus executives' efforts more sharply on performance and value.[29] Private equity transactions give managers substantial equity ownership positions and therefore strong financial incentives to work hard and make sure things go well at their companies. Kaplan estimates that after a private equity transaction, the top two corporate officers of the target firm have increased their stock ownership to 4.41% and that the remaining officers have increased their ownership positions to 9.96% after a private equity transaction.[30] Top managers also frequently participate in receive large stock and cash bonus plans to further motivate them to perform well.

A third potential cause for reduced agency costs is the enhanced management incentives caused by heightened sensitivity of stock prices to firm performance. A rise in leverage due to the issuance of debt at the LBO execution date raises the elasticity of stock price to firm value.[31] Thus, managers holding large equity positions realize much greater wealth gains from improved firm profitability. This creates much stronger incentives for managers both to reduce costs and to increase revenues so as to capture these greatly amplified stock price gains that a rise in firm value produces.

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[29] Luc Renneboog and Tomas Simons, Public-to-Private Transactions: LBOs, MBOs, MBIs and IBOs, ECGI Finance Working Paper 94/2005, available at http://ssrn.com/abstract=796047, (2005) [hereinafter Renneboog and Simons, Public-to-Private].

[30] Kaplan, Effects of Management Buyouts, supra note .

[31] This was demonstrated by Dan Galai and Ronald W. Masulis, The Option Pricing Model and the Risk Factor of Stock, 3 Journal of Financial Economics 53 (1976); Robert Merton, On the Pricing of Corporate Debt: The Risk Structure of Interest Rates, 29 Journal of Finance 449 (1974); Mark Rubinstein, A Mean Variance Synthesis of Corporate Financial Theory, 28 Journal of Finance 167 (1973).

A fourth source of agency cost reductions in private equity transactions is that increased levels of ownership concentration result in improved board monitoring of management as a result of much stronger director financial incentives. Basically, the LBO creates a large block holder whose representatives are placed on the board and given majority control.[32] Not surprisingly, the private equity firm also has majority representation on the board, while management has much more limited board representation.[33] This increased concentration of ownership and control rights that is embedded in the governance structure of the LBO eliminates the free rider problem of monitoring management that is endemic to most public corporations. By reuniting ownership and control, LBOs create large block holders who have appropriate incentives and substantial control rights in terms of board seats as well as greater access to information, which together facilitate closer monitoring of managers. Private equity board members also have significant financial skills and experience from their prior LBO investments, which public directors generally do not.

A fifth benefit of private equity emphasized by Kaplan and Stromberg[34] is the replacement of ineffective senior managers, with highly talented executives. The ability of a privately held firm to quickly replace management, who might have been entrenched in a publicly held firm, and to locate and recruit highly talented executives with much higher, performance sensitive compensation contracts is another important element of the

[32] Cotter and Peck, supra note , at 111-112.
[33] Id.
[34] Steven N. Kaplan and Per Stromberg, Leveraged Buyouts and Private Equity, J. Econ. Persp. Forthcoming (2008).

LBO process.[35] This enables the going private firm to realize much greater levels of operational efficiency and sales and profit growth.

We reexamine the importance of these benefits to a firm's corporate governance system in a later section of the paper after exploring why board oversight can be especially important to many publicly held companies in today's derivative intensive environment. However, we first consider one important critique of the claim that private equity results in improved corporate governance, which yields large reductions in agency costs.

In recent years, private equity has evolved from being simply pure financial buyers, focused solely on improving management quality, manager and director incentives and streamlining/rationalizing firm operations. Now private equity firms have expanded their role to also act like strategic buyers -- they purchase multiple firms in the same or related industries to capture scale and scope economies, as well as other synergies, using the initial acquisition in the industry as a platform for follow-on acquisitions, similar to those firms' earlier roll up strategies in very fragmented industries.[36] This evolution is natural given public corporation's efforts to replicate some of the existing polices of LBO shops to improve manager and director incentives, streamline operations and rationalize product lines. It is also natural given that strategic buyers had a potential advantage over traditional financial buyers, given that they could replicate what the LBO shops were doing and realize synergies from their strategic benefits with the target. This had enabled strategic buyers to often outbid the LBO shops

[35] Acharya and Kehoe, supra note , report that one third of CEOs are replaced within the first 100 days of an LBO and two thirds are gone within 4 years.

[36] See Acharya and Kehoe, supra note and Orit Gadiesh and Hugh MacArthur, Lessons From Private Equity Any Company Can Use, McGraw Hill (2008) for further evidence.

for potential targets. By replicating many of the strategic benefits and synergies through multiple industry acquisitions and roll-ups, the private equity firms are now able to bid higher for these targets and counter the advantages of the strategic buyers. While it is unclear whether LBO shops can capture all of the strategic benefits, they are still placed in a stronger competitive position by pursuing these new strategies.

Skeptics remain. Holmstrom and Kaplan[37] claim that private equity only acts to restructure wayward public companies at one point in time. They believe that this is generally no longer necessary because top executives at public firms now get large amounts of stock options and incentive pay to focus them on creating value for their investors. Furthermore, public company management today is subjected to much closer monitoring by shareholders and directors so that they will pursue shareholder friendly policies. As a result, they claim that public corporations are much more focused on maximizing shareholder value and that the need for private equity to fill that role has diminished or even disappeared. Essentially, Kaplan and Holmstrom argue that corporate governance in US public companies has significantly improved over the last few years, substantially lowering the agency cost savings that private equity investors can attain from an LBO. The key issue becomes then how much further does public company corporate governance need to go?

Many commentators and researchers disagree with the Holmstrom and Kaplan position, arguing that senior management continues to dominate their boards for most

[37] Bengt Holmstrom and Steven N. Kaplan, Corporate Governance and Merger Activity in the U.S.: Making Sense of the '80s and '90s, 15 J. Econ. Persp. 121, 136 (2001).

corporate boards of publicly held firms in the U.S. and elsewhere.[38] These commentators claim that there is substantial evidence of this dominance, including excess CEO compensation, low CEO pay for performance sensitivity, low CEO turnover sensitivity to performance, low debt levels leading to unnecessarily large tax payments, minimal restrictions on senior managers' sales, or hedging, of firm equity and general support by boards for strong takeover defenses.

Jensen observes that there are actually two major agency relationships that need to be considered, the stockholder-manager conflict and the stockholder-director conflict.[39] If the stockholder-manager conflict fails to be adequately resolved, then it is unlikely that the board will optimally choose management compensation so as to align manager interests with shareholders. Why might this stock-holder-manager conflict persist? One answer is because the director nomination process at public companies has historically ensured that boards are less responsive to investors than managers.[40] This process is designed to give the existing board the right to nominate directors and to place restrictions on outside investor nominations. Thus, the effects of shareholder-manager conflict are unlikely to be minimized. Going private actions can result in improved corporate governance and agency cost savings by addressing this problem.

While improved corporate governance and reduced agency costs are recognized by most researchers as benefits of going private transactions, many other motivations

[38] Lucian Bebchuk has been an outspoken advocate of this position. See, e.g., Lucian Bebchuk and Jesse Fried, Pay Without Performance: The Unfulfilled Promise of Executive Compensation, Harvard University Press (2004) (arguing that boards are "captured" by senior management of public companies).
[39] Michael Jensen and William Meckling, Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure, 3 J. Fin. Econ. 305 (1976).
[40] The increase in hedge fund shareholder activism over the past decade may be pushing boards to a more balanced weighing of shareholder and manager interests. Hedge funds high success rates in their activist endeavors have heightened director sensitivity to their interests. Alon Brav, Wei Jiang, Frank Partnoy and Randall Thomas, Hedge Fund Activism, Corporate Governance, and Firm Performance, 63 J. Fin. 1729 (2008).

have been suggested. These include transaction costs saving, reduced SEC regulatory constraints, takeover defenses, tax savings from high debt, expropriation of other corporate claimants by stockholders and undervaluation of targets. We review the arguments and evidence on each of these alternative motivations below.

B. SOX Burden and Transaction Cost Reductions

Sarbanes-Oxley compliance costs, especially Section 404's mandate that all firms engage in costly documentation of their internal control systems, may be avoided if the company goes private.[41] However, a recent paper by Bartlett shows that many companies taken private are still subject to the federal securities reporting requirements and SOX's restrictions.[42] This suggests that SOX compliance costs are not that significant a factor in going private decisions for many firms.

Private equity transactions are also claimed to reduce public companies' other regulatory compliance costs substantially.[43] One commonly cited type of cost reduction is the elimination of stock exchange listing fees,[44] which constitute future cost reductions for whatever period of time the newly privatized firm remains unlisted.[45] A related benefit is the elimination of listing requirements that constrain firm capital structures, ownership structure and shareholder approval rights in M&A and other major firm decisions. Moving out of the public eye may also permit firm managers to devote more of

[41] See, e.g., Roberta Romano, The Sarbannes-Oxley Act and the Making of Quack Corporate Governance, 114 Yale L. J. 1521 (2005).
[42] Robert Bartlett, Going Private but Staying Public: Reexamining the Effect of Sarbanes-Oxley on Firms' Going Private Decisions, 76 *University of Chicago Law Review* forthcoming (2008).
[43] Luc Renneboog, Tomas Simons, and Mike Wright, Why Do Public Firms Go Private in the UK?, Working Paper, available at http://ssrn.com/abstract=873673 (2006), at 8.
[44] Harry DeAngelo, Linda DeAngelo, Edward Rice, Going Private: Minority Freezeouts and Stockholder Wealth, 27 J. Law & Econ. 367 (1984).
[45] Renneboog and Simons, Public-to-Private, supra note .

their time to managing the firm, and less to investor relations' efforts designed to educate public investors about managers' plans and actions at the firm.

Public disclosure requirements under securities laws can place firms at a competitive disadvantage with other firms that are privately held, or are headquartered in countries with less demanding disclosure regimes. So a third benefit of going private is to reduce public disclosures by the firm.

At the same time that compliance costs were increasing, the benefits of being public may have declined for some companies. Small cap public corporations were adversely affected by the collapse of the technology boom in 2001 that made the issuance of new equity more expensive for these companies, while simultaneously reducing the trading volume in their stocks. The benefits of being public to many of these small firms may have disappeared when they experienced falling stock prices, reduced liquidity, minimal analyst coverage and lower trading volume.[46]

In sum, there seem to be significant regulatory cost reductions that can be obtained by going private and, for at least some firms, these may exceed the benefits of being a public company.

C. Takeover Defenses

Public companies that are threatened by the prospect of a hostile takeover may seek to put in place strong anti-takeover defenses. A going private transaction is the ultimate defense against a hostile takeover because the private equity firm and the target firm's managers buy out the public shareholders in order to insure that they obtain or maintain

[46] Jana Fidrmuc, Peter Roosenboom & Dick J.C. Van Dijk, Do Private Equity Investors Take Firms Private for Different Reasons?, available at http://ssrn.com/abstract=968101, Erasmus University Working Paper (2007).

control of the firm.[47] This removes the possibility of an unwanted bidder obtaining a controlling position in the firm through stock purchases without the target company management's approval. This motive seems more likely in MBOs with large management representation on boards since in LBOs private equity investors closely monitor management. Another important limitation of this hypothesis is that many firms that engage in LBOs are quickly taken public again, and at least in some cases, their management loses control at that point.

A more recent variation on this theme might be target firms that are threatened by hedge fund activist shareholders may seek to take their firms private to retain control over them. This motivation is consistent with observed evidence suggesting that hedge fund attempts at interventions frequently lead to private equity buyouts at targeted firms, especially at small and mid-cap firms.[48]

While going private is one mechanism for protecting against takeovers, there are also less costly alternatives such as recapitalizing stock into dual class structures which includes a class of publicly traded inferior shares.[49] Thus, one is left to wonder whether takeover protection can be a major force driving going private transactions.

D. Tax Savings

Many scholars have observed that leveraged buyouts involve buying large amounts of publicly held stock using borrowed funds. The resulting highly leveraged capital structure creates a much higher debt service obligation for the newly private companies

[47] Louis Lowenstein, Management Buyouts, 85 *Columbia Law Review* 730 (1985).
[48] Brav, Jiang, Partnoy and Thomas, supra note .
[49] If a hostile offer is pending, however, it may be difficult to win a shareholder vote to approve a dual class recapitalization. Under these circumstances, an LBO or an MBO seems more likely to be a successful defense.

after the transaction closes. However, one benefit of the increase in interest deductions is that it permits greater use of tax shields for any income earned by the firm. For firms that have significant positive cash flows from operations, tax benefits can play a major role in any wealth gains, although these benefits may vary across countries depending on each nation's particular tax rates and rules.[50]

Kaplan estimates that US private equity deals generate tax benefits equal to between 21% and 72% of the premium paid to shareholders during the first half of the 1980s.[51] Some scholars argue that these benefits are so big that they overwhelm any other potential gains from LBOs and should therefore be restricted by governments.[52] Renneboog and Simons question whether these benefits could be the real motive for going private transactions because pre-buyout investors can anticipate them and therefore should largely appropriate them in competitive markets.[53] If correct, this undermines the argument that taxes are a major force for taking firms private.

E. Wealth Transfers to Shareholders from Other Stakeholders

Another theory about how private equity transactions create value for shareholders is that they expropriate value from non-equity stakeholders, especially pre-LBO bondholders, either through increases in the level of risk associated with new projects undertaken by the firm, via large increases in dividend payments by the firm, or most likely from a firm taking on more debt and/or more senior debt to that which it had prior to the transaction. The value of existing bondholders' claims on the firm will be reduced

[50] Renneboog and Simons, Public-to-Private, supra note .
[51] Steven N. Kaplan, Management Buyouts: Evidence on Taxes as a Source of Value, 44 J. Fin. 611 (1989).
[52] Lowenstein, supra note ; G. M. Frankfurter and E.Gunay, Management Buy-outs: The Sources and Sharing of Wealth Between Insiders and Outside Shareholders, 32 Q. Rev.Econ. & Fin. 82 (1992).
[53] Renneboog and Simons, Public-to-Private, supra note .

if the firm engages in any one of these activities unless those bondholders have contractual protections against the firm's actions. One well-known example of the adverse impact of LBO's on unprotected existing bondholders is the $25 billion going private transaction involving the RJR Nabisco Corporation, where pre-LBO bondholders claimed they lost billions of dollars when the company issued large quantities of additional debt to finance the deal. Subsequent litigation filed by the disgruntled bondholders resulted in adverse court decisions that only emphasized how powerless debt holders are in this situation.[54]

There may be some offsetting benefits to debt holders though. For instance, Marais, et al., claim that debt holders may benefit from the decline in the value of claims of other stakeholders if those declines increase the amount of assets in the firm.[55] Furthermore, Renneboog and Simons point out that the agency cost reductions from increased debt and improved monitoring may raise the value of the firm and thereby benefit bondholders.[56]

Overall, the empirical evidence about the effect of going private transactions on bondholders for the most part shows that there are systematic decreases in pre-existing bonds' ratings by Moody's, but that these ratings' declines do not translate into reduced bond prices.[57] However, when the bonds have weak protection against corporate restructurings, the unprotected bonds do lose value after an LBO.[58] By contrast, bonds with strong covenants actually gain in value because firms seek to renegotiate the terms

[54] Metropolitan Life Insurance Company v. RJR Nabisco, 716 F. Supp. 1504 (S.D.N.Y. 1989).
[55] Laurentius Marais, Katherine Schipper, and Abbie Smith, Wealth Effects of Going Private for Senior Securities, 23 J. Fin. Econ. 155 (1989).
[56] Renneboog and Simons, Public-to-Private, supra note .
[57] Marias, et al., supra note ; Yakov Amihud, Leveraged Management Buy-Outs, New York: Dow-Jones Irwin (1989); M.I. Weinstein, Bond Systematic Risk and the Option Pricing Model, 38 J. Fin. 1415 (1983).
[58] Paul Asquith and Thierry Wizman, Event Risk, Covenants, and Bondholders' Returns in Leveraged Buyouts, 27 J. Fin. Econ. 195 (1990); Arthur Warga and Ivo Welch, Bondholder Losses in Leveraged Buyouts, 6 Rev. Fin. Studies 959 (1993).

of this debt in order to eliminate contractual restrictions on maximum debt levels, or firms are forced to repurchase their bond issues at par, even though the issues are trading far below it. Thus, nonconvertible bonds on average suffer minimal losses in value.

A second, less well-documented, reason why shareholders can benefit from LBOs is possible wealth transfers from other corporate stakeholders. Such a transfer could occur if firms breach their "implicit" contracts with their employees when they fire them, or renegotiate their contracts, as part of a restructuring associated with an LBO. Sheilfer and Summers argue that employees have an implicit, unwritten agreement with their firms in which the companies promise to provide them with long term (lifetime) employment in exchange for the employee accepting lower current wages.[59] These agreements are breached when the firm engages in a private equity transaction if the company fires many of its workers when it restructures itself. However, workers are unable to recoup these losses from the firm because these agreements are legally unenforceable.

There are several reasons to think that these benefits are not large. First, such a breach would only generate a one-time gain, because after it had occurred the first time, workers will factor into their future decisions the non-enforceability of these implicit contracts. Second, on average, LBOs do not result in job losses.[60] Furthermore, the firing of employees reduces the production capacity of the firm and at some point may lower the

[59] Andrei Shleifer and L. Summers, "Breach of Trust in Hostile Takeovers," in A.J. Auerbach, ed., Corporate Takeovers: Their Causes and Consequence, University of Chicago Press, 65 (1988).
[60] The evidence shows that post-LBO firms report small increases in employment levels, but fail to expand employment levels as fast as the rest of their industry. See SteveThompson and Mike Wright, Corporate Governance: The Roles of Restructuring Transactions, 105T he Econ. J. 690, 697 (1995); Kaplan and Stromberg, supra note .

quality of output as fewer employees are employed to manage and produce the firm's goods and services.

A related potential wealth transfer opportunity involves pensioners and employees. When a firm executes an LBO, it often eliminates overfunded pensions and increases the default risk associated with its pension liabilities. However, Pontiff, et al., find that these wealth transfers are modest.[61] Thus, they are unlikely to represent a major motive for firms going private.

F. Undervaluation of the Targeted Firms

Given their superior access to information and greater involvement in the company's business, firm managers will generally have better information than public shareholders about the firm's prospects. This asymmetric information distribution can provide managers with superior understanding about the future value of the firm, allowing them to time their purchase of the company in a going private transaction to take advantage of a temporarily depressed price for the company's stock. More perniciously, unfaithful managers may engage in techniques designed to artificially depress the stock price in order to facilitate an MBO deal.

There is also the possibility that firms follow selective disclosure policies in their financial reporting prior to going private. Specifically, senior managers have incentives to release bad information and delay the release of good information until after the transaction is completed. Of course, if this selective disclosure is detected, the firm and

[61] Jeffrey Pontiff, Andrei Shleifer and Michael Weisback, Reversion of Excess Pension Assets After Takeovers, 21 Rand J. Econ. 600 (1990).

its senior managers could be sued by shareholders as well as the SEC and courts are much more open to shareholder suits in going private transactions.

G. Availability of Derivatives Reduces the Risk Sharing Benefits of Going Public

One impact of the vast growth in the use of derivative securities has been to reduce the risk sharing benefits of being a public company. Merton was the first to argue that the existence of derivative contracts raises the relative advantage of being private over being public by permitting private firms to spread risks more widely.[62] He notes that, "[t]he advantages of being private are headed by reduced agency costs, lower costs of transferring information including external reporting, protection of key information from competitors, and greater flexibility to optimize with respect to taxes and regulation." By comparison, one of the most important benefits of being public is the benefit of risk sharing. Since "private owners internalize parts of the firm's risks which are diversifiable with widespread ownership", they gain by shifting this risk more broadly. Another key benefit of being public is access to public capital markets to support firm investment and expansion. As a private firm, expansion is limited by the firm's inability to fund all its projects with added debt, since the default rate on the debt is a positive function of a firm's assets' total risk or return variability and its leverage or debt to asset ratio. Since the demand for equity of privately held firms has generally been quite limited, with large price discounts demanded, equity capital raising by private firms has generally been a very expensive option.

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[62] Robert Merton, Financial Innovation and the Management and Regulation of Financial Institutions, 19 J. Banking & Fin. 461 (1995) [hereinafter, Merton, Financial Innovation]. See also, Myron S. Scholes, Derivatives in a Dynamic Environment, 88 Am. Econ. Rev. 350, 364, 366-367(1998) [hereinafter Scholes, Dynamic Environment]; Gilson and Whitehead, supra note .

Merton then poses the following hypothetical scenario: "Consider such a firm with needs for funding and risk sharing that believes it must move to the public-ownership domain with all its costs (that reflect what the firm gives up by going public)." However, if a firm can hedge these risks, "then it could reduce the total variation or riskiness of the business, without negatively impacting its productivity…" This will reduce the gains from risk sharing and likely lower the future need to raise equity capital. Merton concludes that, "[t]o the extent hedging becomes widespread, one may well observe a macro shift back toward greater private ownership of firms as these hedging tools are developed" and refined.[63] Given the tremendous growth in derivative markets since 1995, the relative benefits of public ownership as a means of risk sharing and lowering the cost of capital appear to have substantially declined.

H. The Costs of LBOs

LBOs also have some costs. Not every firm should be taken private; a cost-benefit calculation must be made before such a course of action is pursued. In this regard, it is important to include at least the following expected costs of an LBO: higher expected bankruptcy costs; agency costs due to intensified conflicts of interest among firm stakeholders; the lack of stock liquidity; the owners' reduced risk diversification; the disappearance of timely stock price information; the lack of periodic firm disclosures; and the reduced ability to tap the public capital markets. Most of these costs also apply to any private company.

Note that not all the benefits of being public are necessarily realized, especially for small public companies. For example, small firms may lack analyst coverage and

[63] Scholes, Dynamic Environment, supra note , at 366 draws a similar conclusion.

general investor interest. As a result, they may have relatively illiquid stocks and find that making public offerings of securities is difficult and costly. This is a partial explanation why many small companies faced with the higher fixed costs of meeting their Sarbanes-Oxley legal requirements have chosen to go private and why many small firms going private had only recently gone public.[64] Thus, we need to carefully assess the expected costs of being private against their expected benefits to know if going public, or remaining public, is optimal for a firm.

While many suggested reasons for valuation gains in LBOs exist, there is not a lot of evidence indicating that many of these suggested benefits are empirically important. Furthermore, most of these benefits represent private gains at the expense of other investors, corporate stakeholders or the government. The primary exceptions are various agency cost savings, which we argue can be very valuable. Consistent with the importance of these agency cost savings, there is strong empirical evidence that supports the substantial improvement in firm operating efficiency, better board and management incentives, much sharper focus on core operation and substantial improvements in profitability and valuation.[65]

One serious agency problem with private equity investments that is highlighted in prior research occurs when LBO firms take large fees on the front end, but then hold smaller equity ownership positions. In these cases, a private equity partner has weaker

[64] Many studies find that Sarbanes-Oxley has led many small US firms to go private including Ellen Engel, Rachel Hayes and Xue Wang, The Sarbanes-Oxley Act and Firms' Going-Private Decisions, 44 J. Acct. & Econ. 116 (2007). Hamid Mehran and Stavros Peristiani, Financial Visibility and the Decision to go Public, New York Federal Reserve Bank Working Paper (2006) documents that many LBO firms were small and had IPOs in the prior 5 years.

[65] See, e.g., David J. Denis and Diane K. Denis, Leveraged Recaps and the Curbing of Corporate Overinvestment, in Corporate Governance at the Crossroads (Donald H. Chew and Stuart L. Gillan, eds.) 318 (2005); Kaplan, The Effects of Management Buyouts, supra note ; and Anju Seth and John Easterwood, Strategic Redirection in Large Management Buyouts: The Evidence from Post-Buyout Restructuring Activity, 14 Strat. Mgmt. J. 251 (1993).

incentives to continue to closely monitor management once the LBO is completed. They also have greater incentives to take less promising candidates private because their primary compensation is transaction fee driven and thus paid at the consummation of the transaction, regardless of how profitable the deal turns out to be.[66] A key question is whether reputational concerns generate adequate incentives for private equity managers not to exploit their private equity investors in this way.

Another potential agency cost arises out of the recent trend of multiple LBO shops sponsoring an LBO deal, so-called "club deals," which create additional conflicts of interest between LBO sponsors.[67] These conflicts could result in more agency costs in terms of free riding by some sponsoring LBO shops and disagreements among them over major policies in the LBO firms or proposed changes in these policies, especially when the firm is not performing well. Another disadvantage of these syndicated LBO deals is that the stock appears to experience more insider trading prior to the announcement of the transaction.[68]

III. Implications of the Rise of Derivatives for Corporate Governance

A. Weaknesses of Current Financial and Managerial Accounting Systems in the Face of Active Derivatives Trading

[66] See Steven N. Kaplan and Jerome Stein, The Evolution of Buyout Pricing and Financial Structure in the 1980s, 108 Q. J. Econ. 313 (1993); Andrade and Kaplan, supra note ; Acharya, Franks and Servaes, supra note .

[67] Recent research suggests that these club deals may result in private equity firms paying lower prices for acquiring firms unless the targeted firm has high institutional stock ownership. Micah S. Officer, Oguzhan Ozbas, and Berk A. Sensoy, Club Deals in Leveraged Buyouts, Working Paper, available at http://ssrn.com/abstract=1128404 (2008).

[68] See the evidence in Viral V. Acharya and Timothy C. Johnson, More Insiders, More Insider Trading: Evidence from Private Equity Buyouts, London Business School Working Paper, available at http://ssrn.com/abstract=1072703 (2007).

Board monitoring of public corporations has been seriously undermined by the growing use of derivatives.[69] These securities allow firms to acquire large financial risks (such as those that financial intermediaries are currently experiencing in the aftermath of the sub-prime mortgage crisis) on short notice. This situation contrasts greatly from the pre-derivative environment where a major change in firm risk exposure generally required either a highly visible M&A transaction or a large new investment initiative, both of which take a relatively long time to implement, are easy to observe and require explicit board approval.

Financial engineering techniques allow a firm to rapidly change its risk exposure through the use of derivatives, which makes its risk taking much less transparent and much more dynamic. In fact, it is very easy to change these derivative positions on almost a moment's notice. Most firms appear to have inadequate internal accounting and control systems to track these derivative transactions on a timely basis or to effectively police any existing position limits. This problem has been compounded by the failure of most derivative traders to require highly detailed information on the assets underlying their financial contracts.

Derivative contracts enable firms to create equivalent investment positions using a large number of alternative derivative contracts that can be executed within minutes in most cases.[70] Furthermore, each of these alternative (equivalent) investments may be differently regulated by different regulatory authorities, including the SEC, the CFTC, the Federal Reserve, the Office of Thrift Supervision, the Controller of the Currency and

[69] To see a measure of the rapid growth of derivatives trading and outstanding contracts, see the tables of annual levels of exchange traded and OTC derivative contracts reported by the Bank for International Settlements (BIS) at its website http://www.isda.org and for U.S. bank derivatives activity at the Comptroller of the Currency website http://www.occ.treas.gov/deriv/deriv.htm.

[70] Merton, Financial Innovation, supra note .

state insurance commissioners. It is also the case that financial accounting systems do not treat all these equivalent financial positions equivalently. Further, the lag in financial reporting can be as long as 6 months if the transaction is undertaken early in the quarter, since nothing is reported until the quarter is completed and then the firm has a number of months before filing its 10-Q report.

Merton and Scholes observe that the current financial and regulatory accounting systems do a poor job of tracking the risks associated with derivatives. As a result, regulations are generally going to be ineffective, while financial accounting statements are often going to be misleading.[71] Merton notes that, "Accounting as a structure is directed toward value allocations. On this dimension, it is effective." However, he goes on to say that it is not an effective structure for identifying risk exposure:

> "As an example, consider a hypothetical financial institution which has fixed-rate-debt assets, floating-rate-debt financing and equity." … "Suppose that this institution enters into a swap in which it agrees to receive the floating rate interest rate and pay the fixed rate. What is the impact of that? It is, of course to match the risk in terms of interest-rate exposure of its assets and liabilities by transforming… fixed-rate returns into floating–rate returns. But where would that drastic change in the risk exposure of the equity appear on the balance sheet? An accounting structure focused on valuation has no place for it. Why? Because the value of a swap when the firm enters into it is zero."

Thus, boards of directors and outside investors relying on these financial accounting statements will fail to see these potential risk exposures, undermining their board's monitoring role and the ability of investors to buy or sell shares in an informed manner.

[71] Merton, Financial Innovation, supra note ;Scholes, Dynamic Environment, supra note , at 367. In an earlier paper, Scholes states that, "A whole new system of risk accounting must be developed. Current accounting systems concentrate on static valuations. Swaps, foreign exchange contracts, and other OTC derivatives have no initial value. As a result, they are 'off balance sheet.' There is no place for them in the current accounting world." Myron Scholes, Global Financial Markets, Derivative Securities, and Systemic Risks, 12 J. Risk & Uncertainty 271, 284 (1996)[hereinafter Scholes, Global Financial Markets].

The risk taking associated with derivative trading is further complicated by the fact that the default risk of counterparties to the derivative contracts is also very dynamic and can be substantially affected by new derivative positions taken by these counter-parties or by changes in the financial condition and risk exposure of their own counter-parties, which can change the default risk exposure of unchanging derivative contract positions. Disturbingly, information on counter-party financial condition is generally unavailable and at best the counterparty's general financial condition is only known quarterly after a lag of another quarter, providing it is a U.S. publicly held firm. If the counter-party is privately held, or is in a foreign jurisdiction where less informative accounting reporting standards exist, then the problem is much worse. This is a serious problem, even when derivatives are used to hedge away other risks. These disclosure problems are compounded when the assets underlying the derivative contracts are themselves not well documented or specified.[72]

A further concern is that the flexibility in derivative contract structure allows firms to bypass corporate and financial institution disclosure requirements, creating incentives for greater risk taking.[73] Good examples of some of the problems created by large derivative positions that fall outside of normal reporting requirements include Enron and a number of other financial scandals that involved the firm taking large risk exposures unbeknownst to their boards and sometimes even their senior management. As Nocco and Stulz observed, "[c]orporate failures to conduct thorough 'inventories' of their

[72] For example, the changing composition of mortgage pools, which many mortgage back securities allow.
[73] This is one good reason for relying on an exchange clearing corporation to be the counter-party in all trades. Unfortunately, most derivative trades occur off the floors of derivative exchanges.

risks on a regular basis have been responsible for a striking number of major corporate disasters over the past twenty years."[74]

The reliability of financial reporting systems is even a more serious problem for financial institutions where the vast majority of their assets are financial and thus, more rapidly and easily changed through derivative transactions and where derivatives activity levels are typically high relative to firm asset values[75] as more fully discussed in section IIID below. Changing risk bearing in financial institutions (FIs) due to derivatives is a particularly serious concern for several reasons: (1) FIs frequent and extensive use of derivative contracts for hedging purposes enables an FI to execute large derivative transactions without close scrutiny; (2) the large percentage of assets represented by financial claims at FIs makes it easier to change their risk characteristics; and (3) the high leverage employed by most financial institutions makes equity holders particularly vulnerable to shifts in a FI's portfolio risk exposure. These properties make it much more difficult to detect abnormal derivatives trading activity that can substantially raise financial institution risk exposure, or increase their risk exposure to counter-parties, even in the derivatives trades that the FIs are relying on to hedge some of their risks.

Merton and Scholes both argue that financial institutions have much more sophisticated risk management control systems, that capture much of the firm derivative related risk exposure and advocate that other corporations should adopt similar systems.[76] They also argue that if FIs take very different and offsetting derivatives positions, then the effect on the overall financial systems is likely to be minor, since some institutions

[74] Brian W. Nocco and Rene M. Stulz, Enterprise Risk Management: Theory and Practice, 18 J. Applied Corp. Fin. 8, 15 (2006).
[75] Lisa K. Meulbroek, A Senior Manager's Guide to Integrated Risk Management, 14 J. Applied Corp. Fin. 56, 61 (2002).
[76] Merton, Financial Innovation, supra note ; Scholes, Dynamic Environment, supra note .

will gain what others lose. However, this perspective is undermined if FIs herd in their investment decisions and if there are other investors, such as hedge funds, that can successfully bet against them. The recent sub-prime mortgage crisis suggests that relying on offsetting gains and losses by FIs is not particularly prudent. Moreover, there is clearly a continued need to improve on these sophisticated systems used by FIs to better reflect their risk exposures. Furthermore, the current risk management control systems leave FI boards with inadequate information about the actual risk exposures these FIs are taking. Two particularly serious areas of deficiency appears to be the assessment of counterparty default risk exposure and the adverse effects on insurers of potential macro events, which can overwhelm their reserves against losses. However, a more fundamental problem is that the risks taken by counter-parties can change quickly, but there is no real time control or monitoring of these risk exposures. This can induce great uncertainty by market participants when large negative shocks hit the capital markets, causing some participants to take large observable losses and forcing other firms to sell assets at distressed prices.

To address the valuation needs of corporations and financial institutions holding or trading complex derivative contracts, various simulations and use of historical data are employed. However, given the highly non-linear nature of most derivatives and the tendency of many financial assets to suddenly become highly correlated in periods of capital market distress, it is extremely difficult to adequately assess the payoffs on these derivative contracts, especially from a short times series of historical derivative prices. This also implies that the risk associated with these contracts can also be seriously

understated, especially when counterparty default risk is taken into account. The payoffs on various mortgage related derivative contracts is a very good case in point.

One result of this greater risk exposure is that financial institutions have a much greater need for sophisticated directors who are very conversant in derivative contracts and markets. These directors need to intensively monitor these FIs on an almost continuous basis and implement rigorous internal risk controls and monitoring systems, which require updating as the financial engineering technology evolves. While regulatory authorities have tried to reduce these concerns though their monitoring mechanisms, they have suffered from similar weaknesses.

B. Public Company Board Structures Need Strengthening

Public corporations are growing in size due to internal growth and global consolidation within industries. One result is smaller percentage shareholdings by their boards of directors, which results in lower director incentives to monitor the firm carefully. This is reinforced by short term bonuses and stock options because these forms of director compensation have short horizons, making directors receiving these forms of compensation less focused on the long term value of the firm's stock .

At the same time, firms are becoming more complex (geographically and technologically) with larger size and thus becoming more difficult to monitor. Greater derivative usage also raises monitoring costs for directors because of these instruments' complexity, lack of transparency and the potential they create for rapid changes in the firm's exposure to risk.

An important implication of these two trends is that board oversight is significantly weakened by poor incentives and higher monitoring costs. In addition, there is a trend toward nominating directors based on their independence from management, rather than their strategic insights into the business. There has been widespread criticism of corporate boards for being slow to react to poor firm performance and for approving large compensation packages to senior executives when they are hired, renewed or fired.[77] One set of concerns is that outside directors are not independent. While recent reforms of stock exchange listing requirements have tried to encourage more financial and familial independence of outside directors, there continue to be serious concerns about the "social" independence of many of these directors. The fear is that members of the same country clubs and social circles may have trouble aggressively confronting their compatriots in the boardroom. The importance of social independence of directors is highlighted in a recent paper by Hwang and Kim.[78] They examine major types of social dependence for Fortune 500 companies and find that greater social independence significantly reduces measures of equity value and firm performance. The new "independent" directors may lack the appropriate skill set to engage in effective risk monitoring.

Effective corporate governance also relies on reliable and timely reporting of corporate performance measures. This need holds for both internal board monitoring and external monitoring by block holders and other shareholders as well as potential investors

[77] See, e.g., Michael Jensen, Modern Industrial Revolution, supra note ; Michael Jensen, Kevin Murphy and Eric Wruck, Remuneration: Where We've Been, How We Got Here, What Are the Problems and How to Fix Them, Harvard Business School Working Paper, available at http://ssrn.com/abstract=561305 (2004); and Lucian Bebchuk and Yaniv Grinstein, Growth of Executive Pay, 21 Oxford Rev. Econ. Pol. 283 (2005).

[78] Byoung-Hyoun Hwang and Seoyoung Kim, It Pays To Have Friends, J. Fin. Econ. forthcoming (2008).

and acquirers. Without accurate and timely information on firm performance and risk taking, it is nearly impossible to evaluate how well a firm is performing and whether investors are getting an appropriate market return for the risk that they are bearing. Today's public company boards may not have the timely and accurate information that they need to monitor risk levels adequately.

The importance of director financial expertise and knowledge of the firm also appears to have been given little attention in most public firms.[79] The implication is that while many corporate directors appear to exhibit financial independence, this is often offset by these directors not being well informed about company operations. This information problem is minimized in LBO firms since the director representatives of the LBO shop have frequent board meetings and contact with management.[80]

These technological and institutional changes have increased the costs of board monitoring, while lowering its effectiveness and requiring greater director expertise. As a result, directors with more specialized financial skills are needed on boards in general and their time commitments as directors are likely to continue rising.

C. Particular Implications of Increased Derivative Usage For Financial Institutions

Over the last half century, FIs have grown dramatically in their asset holdings and have become much more diffusely held. Shareholder oversight at these institutions has

[79] Masulis and Mobbs find that given their firm-specific knowledge inside directors can be very beneficial to board decision making, especially when they have some independence and for high tech and informationally-intensive firms. Ronald Masulis and Shawn Mobbs, Are All Inside Directors the Same?: CEO Entrenchment or Board Enhancement?, Vanderbilt University Working Paper, available at http://ssrn.com/abstract=1108036 (2008).

[80] For evidence of LBO board activity, see Gertner and Kaplan, supra note ; Acharya and Kehoe, supra note ;Cornelli and Karakas, supra note .

therefore become less effective since few shareholders own a large enough percentage of the outstanding shares to be strongly motivated to carefully monitor the firm's senior managers. Likewise senior management's percentage equity ownership is generally extremely small. Weaker monitoring creates further difficulties in terms of giving FI managers the appropriate incentives to maximize shareholder value.[81]

For the last 30 years, financial institutions have been major players in the derivatives markets. One explanation for this rapid adoption by financial institutions of derivatives as a valuable and highly flexible financial tool is offered by Scholes:[82]

> "To date the major growth in the use of derivatives has been fueled by trends toward securitization and the increased understanding of the role that derivatives can play in the unbundling, packaging, and transferring of risk. No longer do financial service firms only sell the same products they buy from clients. Instead, they break the products down into their component parts and either sell the parts or recombine them into new and hybrid custom-tailored financial instruments."

In fact, many large financial institutions act like markets in OTC interest rate, currency and credit default swaps and other more complex derivatives, being long and short similar contracts. This large level of derivative exposure by financial institutions raises some serious questions. These major developments in derivative usage make it all the more important to have strong board oversight of FIs derivative risk exposure.

Merton asks the following question regarding the rise in the use of derivatives, "Why then is there now such an intensity of concern among managers, regulators, politicians, and the press over the *new* activities and risks of financial institutions –

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[81] One implication of this is that FIs are unlikely to be a serious competitor to the private equity firms. This is especially true given the various regulatory constraints they face in holding significant amounts of equity in illiquid privately held firms. The one exception to this statement is the creation of venture capital subsidiaries by some major commercial banks.

[82] Scholes, Dynamic Environment, supra note at .

relative to their *traditional* risks such as real estate loans or LDC debt?"[83] He goes on to say:

> "My conjecture as to why there is this anxiety or strong focus on the risks of the new activities is that their implementation has required major changes in the basic institutional hierarchy and in the infrastructure to support it and that the knowledge base required to manage this part of the system is significantly different from the traditional training and experience of many private-sector financial managers as well as regulators."

Having offered both the question and the answer, Merton then claims that these are overstated concerns. He is optimistic about how quickly institutions and regulators can adapt to the widespread use of derivatives. However, as previously discussed, many of these concerns may well be justified.

So where may the problems lie for FIs? Some major areas of vulnerability arise out of the increased inadequacy of current quarterly disclosure requirements for banks, mutual funds and insurance companies that fail to illuminate problems or large risk exposures at FIs. Inadequate disclosure requirements can have predictable negative consequences, such as: (1) insufficient incentives for FIs to avoid taking short term, high risk positions between quarterly disclosure points;[84] (2) incentives to shift risk exposure to undercapitalized firms; and (3) incentives to take on more risk that is unrecognized in their financial reports to exploit formal or informal government guarantees to insure these financial institutions against default.

[83] Merton, Financial Innovation, supra note .
[84] This occurs because financial derivatives make it easy to take large high risk positions in the quarterly intervals between mandated disclosure dates.

Financial engineering techniques also make it much easier for FIs to circumvent portfolio restrictions designed to limit their risk taking.[85] This means that unless FIs derivative positions are continuously monitored, huge changes in risk bearing can occur for them in relatively short periods of time. The result is that regulatory efforts to limit the risk exposure of FIs can become ineffectual, enabling them to take on much greater risks and increasing the chances of insolvency by large FIs, with the associated potential for seriously disrupting the normal functioning of capital markets.

Another major problem that has been highlighted by the sub-prime mortgage crisis is the difficulty in evaluating the risks associated with complex derivative contracts and the importance of taking into account counter-party default risk when one is trying to hedge away a particular risk through a derivatives trade. This makes the evaluation of a financial institution's risk exposure much more problematical when it has undertaken substantial derivative trading, even if the trades are solely for the purposes of hedging risks in its overall portfolio position. One result of this uncertainty is the potential breakdown of trust between financial institutions, which can seriously undermine liquidity in capital markets, especially when there are major economic shocks or substantial volatility in markets.[86] The recent turmoil in the inter-bank LIBOR market, commercial paper market and government securities market around the rescue of Bear Sterns illustrates this point.

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[85]Scholes, Global Financial Markets, supra note , at 284 notes that given the growth and evolution in derivative contracting that, "The speed of institutional change has increased in recent years. As new financial innovations have succeeded, regulatory conventions have become obsolete, or lagged behind the new innovations."

[86] See United States General Accounting Office, Financial Derivatives: Action Needed to Protect the Financial System, Report to Congressional Requesters (May 1994), which earlier raised these concerns and Scholes, Global Financial Markets, supra note , which gave a critical response to the GAO report. More recently, see International Monetary Fund, Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness (2008).

D. The Benefits of Firm Risk Management and The Need for Manager and Board Involvement

Enterprise risk management has been widely adopted by companies in the US.[87] Enterprise risk management requires an evaluation of the firm's total risk exposure so that the firm can choose the optimal level of risk to maximize shareholder value.[88] At most firms today, there is a senior management officer called the chief risk officer (CRO) who is directly responsible for the enterprise risk management system, which tracks some of the major risks that the firm faces.[89] A well-designed risk management system insures that "all material risks are 'owned,' and risk-return tradeoffs carefully evaluated, by operating managers and employees throughout the firm."[90] However, these systems are still in their early stages and have only recently expanded to include operating and reputational risks."[91]

Private equity portfolio firms' managers clearly have big, illiquid stakes in their firms. In addition, private equity may be better able to manage risk by, among other things, more intensive board and management monitoring, better compensation systems that strongly motivate directors to monitor manager intensively and give them access to better information flows.

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[87] Scott argues that this trend is in part driven by legal liability from the Caremark decision of the Delaware Chancery Court, Sarbannes-Oxley's emphasis on internal controls and audit committees, but perhaps more importantly by the financial advantages to firms from adopting them. Kenneth E. Scott, The Role of Corporate Governance in Coping With Risks and Unknowns, Stanford Law School Working Paper No. 356 (April 2008), at 7-8. See also, Gilson and Whitehead, supra note , at 16 (stating that corporate risk management has only emerged in the last 30 years)

[88] Meulbroek, supra note , at 64.

[89] Nocco and Stulz, supra note , at 8.

[90] Nocco and Stulz, supra note , at 8.

[91] Nocco and Stula, supra note , at 10.

IV. Benefits of Private Equity in the Current Derivative Intensive Environment

Private equity creates more high powered incentives for directors and gives the board of its portfolio firms increased control rights over management. This makes the board much better able to intensively monitor privately held firms on a frequent basis and to recruit financially sophisticated individuals to the board. It also enables the board to more effectively monitor senior management in the face of rapidly changing risk exposure facilitated by derivatives trading. Private equity investors seek to obtain strong control rights in the firms they invest in and to institute various enhancements to their corporate governance such as improved internal management reporting and control systems and increase equity ownership and more equity based, performance sensitive executive compensation systems.[92]

A. Closer Monitoring by Private Equity Investor-Directors

Private equity transactions concentrate equity ownership. One implication is that management can have a large share percentage ownership stake, so they are well motivated to work hard for firm and focus intensely on creating value. The other large shareholders in these firms are sophisticated buyout shops, who have strong incentives to monitor management carefully because their compensation is tied directly to creating firm value. At the same time, the private equity firms typically have a dominant position on the board of directors, providing them with the power to discipline management as well.

[92] See Thompson and Wright, supra note (evaluating the extent that LBOs are an innovation in corporate governance and how far it remedies the agency problems associated with diffuse shareholdings and management control).

A general prediction of the optimal contracting literature is that as it gets more difficult and costly to monitor managers, there should be a greater reliance on risk sharing through a larger equity-based compensation contracts.[93] Thus, the rise of derivatives, which undermines board monitoring, should lead to a greater use of equity based compensation for management. This process is easier for private equity portfolio firms because, by being private, they avoid public criticism for giving their senior portfolio firm managers a large amount of equity-based compensation.

On the other hand, the use of stock options can have deleterious effects because the value of call options and warrants is a positive function of stock risk. This means that managers with significant levels of this form of compensation have greater incentives to take more risk. Derivatives are an attractive means to add risk due to their lack of transparency and the speed with which big positions can be taken. Likewise, high leverage raises management incentives to take on more risk. Both of these tendencies need to be counteracted by more intense, sophisticated board monitoring and greater director discipline, making more frequent board monitoring and evaluation of risk controls particularly important.

Directors able and willing to undertake these tasks are hard to find at public companies, where public scrutiny and relatively low compensation make the cost-benefit calculations for becoming a director unattractive. The same people, however, may find becoming private equity portfolio firm directors more attractive though, because these boards are small, their proceedings private and director compensation can be much greater than in public companies. In terms of the latter, given the smaller equity base of

[93] The path breaking article on this point is Bengt Holmstrom, Moral Hazard and Observability, 10 Bell J. Econ. 74 (1979).

these LBO firms, directors can be given larger percentage ownership positions, which can further sharpen their incentives.[94] These incentives are again intensified by the LBO's high leverage which multiples the potential payoffs from success substantially. In the final analysis, the directors at private equity portfolio firms generally are either sophisticated outsiders with relatively large percentage ownership stakes, or they are partners or employees of the private equity firm that holds a very large percentage ownership stake. Either way, these directors are well motivated to monitor management carefully and intensively.

Bringing a firm private also makes it difficult if not impossible for managers to hedge away the risk of their stock and stock options holdings since there is no secondary market for their firm's stock. This improves alignment of interests of managers and shareholders. The lack of a secondary market also makes insider trading in the firm's stock impossible, which is another benefit to other shareholders, who could otherwise suffer adverse price effects. The lack of a secondary market also gives the firm some ability to penalize managers who are prematurely leaving the firm for better opportunities or because they have been fired since the board has some discretion in valuing the firm's illiquid equity and the manager is often forced to sell the equity back to the firm.

Another implication of the above analysis relates to the choice of directors. In a private equity controlled firm, boards are smaller and directors with strong financial expertise can be more easily added to the board, even if they have financial ties to the firm. Since these private firm directors are well compensated, it becomes possible to attract financially sophisticated individuals, again leading to more effective director

[94] It is worth noting that a small board reduces the financial cost of creating the good director incentives.

monitoring. In addition, private equity firms, which generally have great influence over the selection of outside directors, have sharp incentives to choose strong, financially sophisticated directors to insure that their portfolio firms increase in value.[95] This perspective leads to an interesting testable prediction: Do firms with more financially sophisticated directors tend to have fewer derivative related problems?

One important trait of privately held firms is that outside investors and board members have excess control rights. These rights give a portfolio firm CEO much stronger incentives to keep directors informed about the firm's financial condition, its investment opportunities, and its positions in derivatives markets. They also provide the CEO much stronger incentives to go along with the judgment of the directors and private equity firm partners, as well as limiting their ability to shirk their duties, underperform or to consume large amounts of perquisites.

Risk monitoring at private equity controlled portfolio firms should be better than at public companies for several reasons. First, enterprise risk management requires all firm managers to be focused on how their individual actions can affect the entire firm's risk profile. At private equity firms, managers have much larger ownership positions than their public company counterparts, and therefore have greater incentives to worry about the firm's overall value. Furthermore, these private equity managers' equity interest are much more sensitive to variance in firm value because of the relatively high debt burden carried by their firms, again strengthening their incentives to watch risk carefully. Finally, the board will exercise tighter monitoring of the managers' risk-inducing decisions, with more financially experienced directors acting on better

[95] An interesting issue worthy of empirical documentation is the percentage of private equity directors that have substantial financial expertise.

information in a no-questions barred environment to insure that firm value is maximized. This should reduce the likelihood of undetected large derivative-related risk exposure, especially at financial institutions.

Directors at private equity portfolio firms have strong incentives to reduce the size of the corporate empire when the firm is no longer growing rapidly, but has accumulated large amounts of assets, especially liquid assets. A key question that must be decided when a firm faces strong liquidity pressures from its maturing debt is how much to expend on R&D and capital expenditures. Again, having a sophisticated board should allow these decisions to be made optimally. Without these liquidity pressures, there are clear management incentives to keep growing, and certainly no incentives to shrink, the firm. However, the combination of these liquidity pressures along with close board oversight means that efficient investment decisions are more likely to be made.

Another important element of effective board monitoring is the extent that board members are given greater access to proprietary information in these private equity firms, which could include giving the board more frequent financial reports. Greater internal financial reporting facilitates more intensive monitoring of management. Concomitantly, private equity firms should also employ more sophisticated internal financial reporting, more reputable auditors and require more detailed audits to further strengthen board oversight.

Private equity investing could play a valuable role in the FI industry. Having highly motivated and financially sophisticated directors closely monitoring FI managers and derivatives activity is likely to substantially improve their operations. However, when governments, by explicitly or implicitly guarantee these institutions liabilities

against default through deposit insurance, reinsurance pools and "too big to fail" doctrines, the incentives of private equity investors to become involved are seriously reduced. This is especially true if these guarantees can be lost when the FIs go private. In addition, a myriad of government regulations prohibit many of the actions and corporate governance changes that private equity investors expect to implement such as changes the FI's assets, liabilities and operations. For example, under current US banking regulations investors holding more than ten percent of a bank's equity cannot put a director on its board, thereby negating one of the most important benefits of having private equity investment in FIs.[96] As a result, LBOs of financial institutions do not generally occur. Instead, we see private equity investors participate in improving the efficiency of the FI industry indirectly, by buying large portfolios of distressed financial assets from many large FIs.

B. Benefits of Private Debt in the Current Derivative Intensive Environment

The sophisticated private equity shops employ high leverage in their buyout transactions, with their financing being derived from a small number of large institutional investors, who buy the firm's private debt. This means that a small number of financially sophisticated investors will be the private firm's primary creditors. [97]

This has several advantages. First, debt holders have strong incentives to carefully monitor firm risk and derivative exposures because it is easy for the value of their investment to be adversely affected if the firm does a poor job of managing its risk,

[96] Editorial, The Banks and Private Equity, N.Y. Times, August 3, 2008.
[97] Cotter and Peck find that sophisticated buyout shops use less short term debt, and need less senior debt, because these private equity investors do a better job of monitoring their portfolio firms. Cotter and Peck, supra note , at 103-104.

given the extremely high leverage the LBO starts out with. For example, debt holders will care a lot about the firm's risk of financial distress as it may reduce their likelihood of repayment. As a result, after an LBO, the large debt holders will certainly monitor the firm's actions and try to remain informed about all important derivative exposures. The private equity form of ownership facilitates this process because it can provide debt holders with better information.

Second, use of private debt allows creditors to be more flexible in dealing with covenant violations, permitting more customized covenants to be used, and potentially resulting in tighter contracts (at least in the future). The small number of large and sophisticated creditors can directly monitor the borrower's compliance with protective covenants, increasing their incentives to carefully monitor borrowers relative to the incentives of trustees of public bond issuers, who may have little or no direct risk exposure in the bond issue.[98] In contrast, a debt violation in a public bond issue triggers the need to obtain the agreement of 2/3s of the debt holders to waive the violation, which can be a both difficult and a slow process.

Third, private debt enables creditors to have access to proprietary firm information to facilitate in-depth monitoring, while avoiding public transparency and the resulting competitive disadvantage borne by the firm. Moreover, disclosure of proprietary information is substantially reduced and is limited to large block holder directors and large creditors. Public shareholder monitoring requires firm transparency, which can give competitors without the need for such transparency a competitive

[98] One seemingly contradictory piece of evidence is the recent popularity of covenant lite debt when institutional investors were competing to lend to private equity borrowers. This appears to represent a serious failure in the commercial bank decision making process that had adverse consequences.

advantage. Competitors that are privately owned, held by governments or headquartered in nations with weaker disclosure requirement would be in this class.

Further, many of these investors will hold both debt and equity,[99] and therefore have access both to information that is provided to debt holders, which can further inform them about an LBO firm's financial condition, as well as giving them access to board information that is provided to equity holders. In public firms, providing debt holders with this type of information gives them valuable proprietary information which they can trade on in the firm's stock. But, in an LBO, this information trading opportunity is non-existent given the lack of a secondary market in the stock.

Another aspect of the LBO debt is that holders frequently receive large warrant holdings, conversion rights or stockholdings, which align their incentives more closely with shareholders. This rarely occurs with publicly held debt, where convertible bond issues or straight debt with warrants are few in number. An important result of LBO debt holders having substantial equity-based securities in these same firms is that it makes them more amenable to restructuring the debt in the case of a covenant violation. This follows since their overall pay-off is not only debt based, but also rises with the value of the equity. Thus, they are concerned not only with maximizing the debt's value, but also the value of their equity related investment. So it is the joint maximization of the value of their holdings in the firm's debt and equity that should matter to these lenders. This allows the firm to take greater leverage because its expected bankruptcy costs are not raised to the same extent that they would be if debt holders had no equity ownership.

[99] Thompson and Wright, supra note , at 693(institutional investors may participate as both equity and debt owners in 'strip financing' for LBO).

To summarize, the advantages of debt structure in LBOs where there are a few large and sophisticated private lenders are: better monitoring, better information, less disclosure of private information to the market place, and debt/equity joint holdings that create incentives to maximize total firm value and give the firm more flexibility if restructuring is needed.

C. Institutionalization of Equity Holdings Supports Improved Risk Monitoring in Private Equity Financed Deals

With almost sixty percent of all equities held by institutional investors, it is fair to say that a majority of shares in most large US corporations are now primarily being held indirectly through institutional investors, not directly by individual investors. From a risk monitoring perspective, this is a positive development as it leads to much larger block holdings at public firms on average, which raises incentives for stockholder monitoring of the performance of the firm and its managers and allows for more coordination of shareholder voting decisions.

This institutionalization of equity can improve shareholder monitoring at private firms as well through its investments in private equity firms. The growth of these institutions means that they have a large presence in major capital markets, including at private equity funds.[100] This dominant position of institutional investors has a positive effect for their smaller investors because these funds can invest large amounts in private equity deals on behalf of these investors, and in some cases pay lower fees.[101] These institutions monitor private equity firms to insure that they remain focused on producing

[100] See, e.g., Martin Arnold, USS Commits to US Buyout Fund, Financial Times, June 19, 2008, at 21 (UK pension funds joining the trend of US and Canadian pension funds investing in private equity buyout funds).
[101] Id.

value for their investors, sharpening the private equity partners' focus on maximizing portfolio firm value. Institutional investors often also take substantial debt positions in private equity firm portfolio firms and act as monitors in that capacity as well.

Institutionalization may benefit private equity in other ways. Given the substantial number of large institutional investors, private equity investors now have an alternative way to exit from their investments without the need for IPOs or acquisitions. Instead, private equity firms can exit through a sale of their entire ownership positions in the LBO firm through privately negotiated syndicated sales to other institutional investors. This alternative exit for private equity investors means that they now have a greater ability to invest in firms that are unlikely over the following 5 years to either re-emerge as public companies through an IPO or be acquired by other public or private companies. There is also a new trend by some private equity firms to sell their positions to other private equity firms so as to obtain liquidity in otherwise illiquid private firms. These trends should help private equity continue to recognize high returns on its investments.

VI Conclusions

With the advent of extensive derivative usage, boards and regulators are confronted with much more difficult monitoring problems. At public companies, neither the senior management nor the directors have strong enough financial incentives, nor frequently the financial training, to engage in continuous active monitoring of corporate derivative contract positions that are in the interests of shareholders. This creates

ongoing challenges for even a diligent board with strong financial expertise. Yet, few corporations have such highly motivated and financially sophisticated directors.

Private equity offers several attractive benefits to help offset these corporate governance problems. First, under private equity management, share ownership is sharply reduced and heavily concentrated with the creation of a controlling block holder. Second, private equity firms reduce board size, place control in the hands of directors representing large fractional owners in the firm and ensure that these directors are financially sophisticated and strongly motivated to carefully monitor the senior managers and to set management incentive contracts so as to closely align their interests with the block holder and other outside shareholders. Third, boards at private equity portfolio firms have the power and incentives to discipline and if necessary replace senior management. Fourth, the high leverage used to financed most going private transactions also raises the risk of bankruptcy and job loss for senior managers from a creditor takeover of a financially distressed firm, motivating the managers to work harder and for the other stakeholders to be more open to renegotiating contracts to strengthen the firm's financial condition.

Our analysis suggests that companies taken private by private equity firms are more likely to be (a) firms with diffuse ownership, low manager shareholdings and performance insensitive management compensation plans, (b) firms that exhibit poor operating performance due to weak board oversight and (c) firms that periodically or frequently are involved in derivatives trading activity. Investors face a particularly serious agency problem with financial institutions, given their frequent and often heavy use of derivatives. There may be great opportunities for private equity to become

involved in improving the operations of these institutions, though the existing regulations placed on these institutions, including limits on leverage, and given the high levels of leverage these firms currently hold, will need to be relaxed to make LBO type transactions feasible.

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Financial assistance for the services of the editorial assistant of these series is provided by the European Commission through its RTN Programme on European Corporate Governance Training Network (Contract no. MRTN-CT-2004-504799).

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